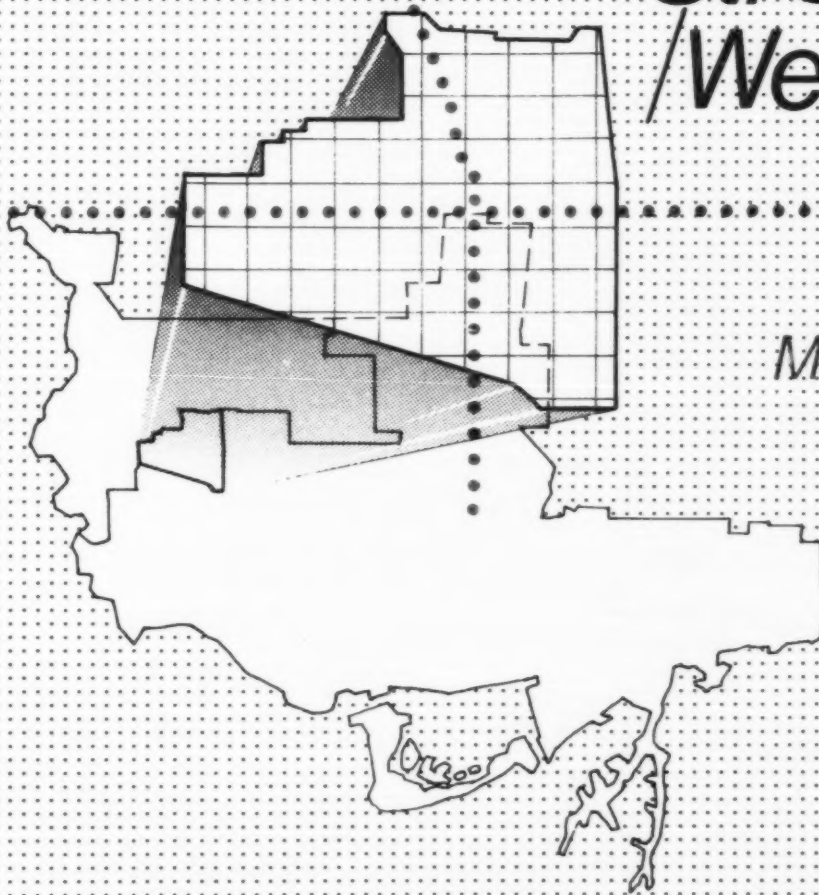


St. Clair Ave. / Weston Rd.

TRAFFIC MANAGEMENT STUDY



September 1987

- City of Toronto
- The Municipality of Metropolitan Toronto
- Toronto Transit Commission

**ST. CLAIR AVENUE/WESTON ROAD
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ST. CLAIR AVENUE/WESTON ROAD TRAFFIC MANAGEMENT STUDY

1.0 INTRODUCTION

1.1 Background

Figure No.9 of the Official Plan for the Urban Structure of Metropolitan Toronto, which describes the right-of-way widths for the Metropolitan arterial road system, designates the area around the St. Clair Avenue West/Weston Road intersection to be the subject of a traffic management study conducted jointly by Metropolitan Toronto and the City of Toronto. The Official Plan notes that the right-of-way widths within this area are shown as existing pending the conclusion of this study.

The ultimate Official Plan right-of-way widths in the St. Clair/Weston area were not finalized in the current Metropolitan Official Plan due to uncertainties in 1979 with respect to the impact the opening of Black Creek Drive would have on traffic flow distribution. Metropolitan and City of Toronto staff agreed, at that time, that a traffic management study conducted after the opening of Black Creek Drive would assist in the examination of the need for traffic improvements resulting from any redistribution in traffic and could be used as input for a review of road right-of-way widths.

In 1980, Metropolitan Toronto initiated the Black Creek Drive Travel Monitoring Study to examine the effects on road and transit travel demand in the Black Creek Drive corridor resulting from the opening of that facility. The study was completed in 1985 and the results published in the Black Creek Drive Travel Monitoring Study (1980-1985) report in March, 1986. This study found that in the St. Clair/Weston area traffic on Weston Road/Keele Street, between Rogers Road and Dundas Street West increased significantly from 1980 to 1985; however, traffic volumes on the other roads in the area showed no significant changes during the same period.

Metropolitan Council, at its meeting of April 15, 1986, considered Report No.5 of the Transportation Committee which contained a joint report on the Black Creek Drive Travel Monitoring Study (dated March 21, 1986), from the Commissioners of Planning and Roads and Traffic recommending that, with the conclusion of this study and in conjunction with the quinquennial review of the Metropolitan Official Plan, it was appropriate to initiate the traffic study of the St. Clair/Weston area. Metropolitan Council approved the recommendation that "the City of Toronto be requested to authorize staff from the Public Works and Planning and Development Departments, to participate with Metropolitan staff in a joint in-house traffic study of the St. Clair/Weston Area".

The City of Toronto City Services Committee at its meeting of May 6, 1986, authorized the Commissioners of Planning and Development and Public Works to participate with Metropolitan staff as requested by Metropolitan Council. The first Technical Committee meeting was held on August 20, 1986 to initiate the study.

1.2 Study Purpose

The purpose of the study is to investigate the impact of existing and future (1991) traffic and transit volumes on the operation of the existing road network in the St. Clair Avenue West/Weston Road area, with the objective of identifying problem areas and feasible traffic management improvements. The results of the study will be used during the review of Metropolitan road rights-of-way conducted as part of the quinquennial review of the Metropolitan Official Plan currently being undertaken by the Metropolitan Planning Department.

1.3 Study Area

The area of further study identified on Figure No.9 of the Metropolitan Official Plan, illustrated in Figure 1, generally covers St. Clair Avenue West, Weston Road/Keele Street and Old Weston Road on either side of

the St. Clair/Weston intersection. The study area for the St. Clair Avenue/Weston Road Traffic Management Study, illustrated in Figure 2, was expanded to include the area contained within Jane Street, Bloor Street West, Dufferin Street and Eglinton Avenue West to permit examination of the impacts of the potential growth in traffic volumes in the area.

1.4 Study Organization and Work Program

The study was conducted in-house by Metropolitan, City of Toronto and Toronto Transit Commission staff. City of York staff also participated in the study since the study area extended north of the Toronto/York City boundary up to Eglinton Avenue West.

A Technical Committee consisting of the following members, directed the study:

Mr. J. Pryer	City of Toronto Department of Public Works
Mr. R. Sasaki	City of Toronto Planning and Development Department
Mr. S. Brown	City of York Department of Public Works
Mr. J. Ford	Toronto Transit Commission
Ms. J. White	Metropolitan Department of Roads and Traffic
Mr. J. Casali	Metropolitan Planning Department
Mr. T. Mulligan	Metropolitan Planning Department

The study was co-ordinated through the Metropolitan Planning Department, Transportation Division.

The study work program included the following elements:

- (a) Identification of Existing Conditions
 - land use inventory;
 - traffic and transit levels of service;

- truck traffic characteristics and any goods movement problems;
- (b) Forecast of Future Conditions
 - identification of potential new development for a five year time frame (1991);
 - assessment of the traffic impacts of this new development and the growth in through traffic on the road and transit system;
 - identification of surface transit requirements for the 5 year time frame; and
- (c) Assessment of Required Improvements
 - identification of a range of transportation improvements which will (a) alleviate existing problems and (b) accommodate the 5 year future traffic demands. Possible improvements included:
 - o intersection improvements;
 - o traffic signal timing modifications;
 - o pavement widenings;
 - o special provisions to accommodate truck traffic and other goods movement requirements;
 - o provisions for the protection of residential areas;
 - o provisions for pedestrian requirements; and
 - o provisions for surface transit requirements.

If, as a result of the implementation of the recommendations of the study, traffic through local residential areas is to be affected, discussions with local ratepayer groups would commence. This would enable elected representatives, committee members and local groups to arrive at a workable solution with respect to implementation of traffic control measures.

2.0 EXISTING CONDITIONS

2.1 Land Use

The study area consists of the north-west part of the City of Toronto and the southern section of the City of York.

The north-west section of the City of Toronto is predominantly residential in character, with industry being the only other major land use activity. Land use information for the north-west section of the City of Toronto is summarized in Appendix A.

As indicated in Appendix A, the major land use activity in most planning areas, as measured by gross floor area (gfa), is residential. The main exceptions are the Stockyard District and Dufferin/Davenport areas which are predominantly industrial in character and account for 62% of all the industrial gfa in the north-west section of the City of Toronto.

Retail, institutional and office uses represent approximately 12% of the total gfa in the area, with major concentrations occurring within the South/West Junction, Humberstone and the Stockyard District respectively.

The southern section of the City of York has similar land use characteristics as the northwest part of the City of Toronto. Residential areas make up the majority of land use in the area. Institutional uses and local retail uses are located within the residential areas to serve the residential population. Industrial land uses are concentrated close to the north-south rail lines between Weston Road and Black Creek Drive.

2.2 Traffic Conditions

The St. Clair Avenue West/Weston Road area is served by both Metropolitan arterial roads and City of Toronto and York arterial roads,

as illustrated in Figure 3. These roads are in a basic grid pattern providing east-west and north-south access; however, because the CNR and CPR railways traverse the study area in both the north-south and east-west directions, Weston Road and Dundas Street West run through the area at odd angles to the basic grid pattern. These irregularities in the road network create specific access and distribution problems.

Vehicle travel data across the Metropolitan Cordon Count screenlines and screenline segments that comprise the Railway and Suburban cordons was reported in the Black Creek Travel Monitoring Study for the A.M. (7:00-9:00 a.m.) and P.M. (4:00-6:00 p.m.) peak periods for 1979 and 1985. This information is reproduced in Figures 4 (a.m. Peak Period) and 5 (p.m. Peak Period).

Table 1 presents A.M. and P.M. peak hour cordon count data for screenlines examined (illustrated on Figure 2) as part of the Black Creek Drive Travel Monitoring Study. This data illustrates an increase of about 20-25% in north-south peak hour auto travel between 1979 and 1985 across Eglinton Avenue West as a result of the opening of Black Creek Drive. It is this significant increase in travel across Eglinton Avenue West and its potential impact on the Weston/St. Clair area that is of most concern in this study.

In general the existing roadways within the study area provide an acceptable level of service to motorists except at some specific locations identified in Figure 6 (A.M. Peak Hour) and Figure 7 (P.M. Peak Hour), where some or all of the movements are at or approaching capacity. The congestion problems created by the capacity constraints at these intersections are indicative of the problems experienced in older mature areas throughout Metro. Specifically, thirteen intersections in the a.m. peak hour and eleven intersections in the p.m. peak hour have one or more movements where existing volumes exceed capacity. Appendix B presents existing A.M. and P.M. peak hour traffic volumes and detailed descriptions of existing traffic conditions.

The Industrial Association in the St. Clair/Weston area has identified a number of site specific truck operation problems within the study area which are currently being addressed by the City of Toronto Public Works Department. A further truck issue has been identified and pertains to the restricted access for some industries resulting from the abandonment and removal of the Old Weston Road grade separation across the CPR tracks. This bridge was closed in 1972 because of deterioration of the structure, and because of the low traffic volumes that used the bridge, it was not replaced.

2.3 Transit Service and Ridership

The Toronto Transit Commission currently operates 16 transit routes through the study area (10 diesel bus, 5 trolley coach and 1 streetcar route). Figure 8 illustrates the location and the A.M. and P.M. peak hour scheduled service frequency in minutes (i.e. scheduled number of minutes between successive vehicles) for these routes.

Table 2 presents surface transit passenger data for 1980 and 1985 collected for the Black Creek Monitoring Study. That study concluded that transit volumes in the Black Creek Drive study area increased at a faster rate than vehicular traffic volumes during the period 1979/80 to 1985. However, these increases were of the same magnitude as overall transit passenger volume increases throughout Metropolitan Toronto. Therefore, the study found that there was no conclusive evidence that the opening of Black Creek Drive directly affected transit passenger volumes.

Appendix B contains 1986 peak hour transit ridership data for the T.T.C. routes operating within the study area. The peak hour ridership was measured at the peak point on the route, which, in some cases, was outside the study area. These existing service levels accommodate the peak point demand on all routes and the T.T.C. has indicated that the frequency of all services can and would be enhanced if ridership increased.

Traffic congestion in the area has a direct impact on T.T.C. services. The 1983 T.T.C. Long Range Plan identified traffic congestion as a growing problem for the T.T.C., which could result in a considerable decline in surface transit speeds, leading to increased transit capital and operating costs and reduced productivity and service efficiency.

On a Commission wide basis during the 1986 calendar year, a total of three AM peak vehicles, three PM peak vehicles and two off-peak vehicles were added in order to compensate for the frequency-reducing impact of traffic congestion. Additionally, in 1986, traffic congestion necessitated running time increases (i.e. slower scheduled speeds) on twelve routes. This did not result in additional use of resources, but did reduce the level of service and, therefore, the capacity available on the affected routes to accommodate marginal increases in ridership.

Scheduled service speeds for those sections of routes within the area were compared with total scheduled route speeds in an effort to review the existing effects of congestion within the study area. In this way, if congestion were affecting transit service within the study area more so than in other areas, lower scheduled speeds would be expected. As can be seen in Table 5, the section speeds within the study area generally correspond very closely with speeds for the entire route. In fact some speeds are higher for the sections within the study area; however, this can be explained by the fact that some sections within the study area are quite short and therefore not exposed significantly to the level of congestion within the study area, while others operate in more congested areas of the city. The Keele route does show significantly slower speeds within the study area. This would be expected in view of the fact that the Keele route operates through a large suburban area north of this study area, where faster speeds can be maintained.

3.0 FUTURE LAND USE

As described in Section 2.1, the existing land use within the study area consists mainly of stable residential areas (single family and multiple family units), retail areas that serve this residential population and industrial areas abutting the railway corridors.

The City of Toronto Planning and Development Department reviewed existing, proposed and possible future development within the ten planning districts located in the City of Toronto within the study area, illustrated on Figure 9. Table 3 presents the net change in development (in square metres) for each of the ten districts by six land use categories; residential, institutional, office, retail, industrial and other. Within these districts approximately 236 000 square metres of net additional development is forecast, 44% of this increase is residential, 2% institutional, 6% office, 15% retail, 7% industrial and 26% other (which includes ancillary office, specialty retail and laboratory, etc. uses). Based on these estimates, approximately 1,500 additional residents and 2,900 additional employees will be residing and/or working within this area by 1991. These increases represent approximately a 4% growth in development within the area between 1986-1991.

The section of the study area within the City of York is also expected to remain relatively stable throughout the study period. Developments that have been identified include the re-development of the Metropolitan Works yard on Rockcliffe Boulevard for industrial purposes, and the re-development of the Dominion warehouse facility at Keele Street and Rogers Road for retail uses. The City of York is also proposing the possible development of an enhanced Civic focus at Black Creek Drive and Eglinton Avenue; however, the timing of potential development is uncertain and, therefore, it has not been included in this study.

4.0 FUTURE TRAFFIC AND TRANSIT CONDITIONS

4.1 Methodology

The 1991 travel demand (auto and transit) within the St. Clair/Weston study area was calculated based on the existing travel demand in the area, increased to reflect overall background travel growth, and estimates of the increase in study area generated traffic based on future land use projections. Appendix C presents in detail the analysis conducted to determine future travel volumes.

An analysis of cordon count data and travel demand model results determined that a background traffic volume increase of 1 per cent. per year was appropriate for the existing traffic volumes within the study area. This factor was applied to existing 1986 traffic volumes to determine 1991 background traffic flows.

The trip generation rates used to calculate the additional auto and transit trips generated within the study area by 1991 for all land use categories except residential, were supplied by the City of Toronto Planning and Development Department. Residential trip rates were calculated as an average of I.T.E. trip rates for different dwelling unit types adjusted to reflect the high transit usage in the area.

The distribution of new trips generated by the 1991 land use estimates was determined using the FRATAR technique, which factored 1981 trip distribution model results to 1991 based on 1991 population and employment projections for the Greater Toronto Area. This 1991 region wide trip distribution was synthesized for the study area road and transit networks for the A.M. and P.M. peak hours to permit the assignment of the 1991 trips and is presented in Figure 10.

4.2 1991 Auto Travel Demand

The additional 1991 auto trips generated by the estimated land use changes in the study area and the trip generation rates described in

Section 4.1 are presented in Table 4. During the A.M. peak hour an additional 600 inbound and 530 outbound vehicle trips will be generated within the study area. These trips were distributed to the study area road network and added to the 1986 traffic volumes increased to reflect through traffic growth to 1991. Mirror image trip making patterns were assumed to estimate the additional P.M. peak hour traffic volumes expected by 1991. Figures C.2 and C.3 in Appendix C, show the 1991 A.M. and P.M. peak hour traffic volumes at the major intersections within the study area.

Capacity analysis of the future 1991 traffic volumes, illustrated on Figures 11 and 12, indicates that the intersections presently at or approaching capacity will become more severely congested due to future traffic demands. Two additional intersections in the AM peak hour and three additional intersection.s in the PM peak hour will have one or more movements where the future volumes will exceed capacity.

A review of the 1991 auto demands does not indicate a need for the rebuilding of the Old Weston Road bridge based on improvements to traffic operations. However, the industrial accessibility of the area may be improved if the bridge was in place. Therefore, although the replacement of the bridge is not justified on traffic operations criteria, the City of Toronto may wish to pursue it based on the possible benefits to industrial economic development.

4.3

1991 Transit Travel Demand

Table 4 also shows the increases in A.M. peak hour transit trips estimated for 1991. An additional 480 transit trips into the study area and 415 transit trips out from the study area will be generated by the land use changes forecast by 1991. This number of trips in and out of the study area can be accommodated by the existing transit capacity available in the study area or through capacity increases determined through the T.T.C's "service standards program", which constantly

monitors T.T.C. services and recommends adjustments based on demand.

As identified in Section 2.3, the main and growing problem with respect to transit operations is traffic congestion. Transit service frequencies are a function of traffic level of service, therefore, as congestion increases, transit level of service decreases. Improvements to the congested intersections will automatically improve the operation of T.T.C. services.

It is not expected that the increased traffic forecasted for the St. Clair/Weston study area will impact significantly on transit. However, the general increase in congestion affects the T.T.C. as a user of the road system. Therefore, improvements proposed to alleviate existing traffic problems or ones forecasted for the future will benefit the T.T.C. However, the inability to alleviate congestion in the long term could impact on transit significantly.

5.0 TRAFFIC MANAGEMENT IMPROVEMENTS

Traffic Management improvements can be classified into two basic areas; (i) non-capital improvements and (ii) capital improvements. The former includes signal timing adjustments, parking restrictions, one-way streets, and improved enforcement, while the latter includes: transit priority; pavement widenings; and intersection improvements.

A review of the congestion problems in the study area indicated that they stemmed from capacity limitations at signalized intersections. Improvements such as increased peak period parking restrictions and increased enforcement of existing traffic and parking regulations would not relieve congestion at the problem intersections. The widening of long stretches of existing streets was not considered feasible because of the relatively narrow right-of-ways present within the study area. In addition, although existing transit services are affected by the slow

traffic speeds resulting from congestion, the T.T.C. did not identify a need for transit priority improvements within the study area, since the sections of routes within the study area that could be potentially improved represent only a small proportion of the total route length and since improvements to congested intersections would, in any event, assist transit operations. It was therefore concluded that the study should focus on identifying improvements to capacity deficient intersections. Two main types of intersection improvements were identified; signal timing optimization and possible geometric improvements, both those that can be implemented in the short-term and over the long-term. The following sections detail the extent of the improvements that can be made in each of these areas.

5.1 Signal Optimization

A regular review of signal timings of the intersections in the study area could be beneficial in terms of increasing levels of service at a comparatively low cost. Studies performed in other North American cities have revealed that 0-15% reductions in stops and delay can be achieved through signal timing optimization, depending on when the timings were last reviewed.

A regular review of the signal timing at signalized intersections within the study area would, in all probability, provide some improvement to the traffic operations. However, the congestion problems identified in this report are indicative of the inadequacy of the arterial road network to handle the daily traffic demands. Therefore, it would be unrealistic to assume that these problems can be resolved through minor adjustments to traffic signal operations. Notwithstanding this fact, a review of signal timing in the area should be undertaken to ensure the optimum signal timings for the area are implemented.

5.2 Intersection Improvements

5.2.1 Short Term Improvements

There are a number of intersections at which physical improvements can be implemented in the near future due to the fact there are no constraints in terms of land acquisition, since land is either not required for the improvement or it can be acquired without affecting existing buildings. The following intersection improvements have been identified and can be implemented in the short term:

<u>City</u>	<u>Intersection</u>	<u>Improvement</u>
York	Eglinton Avenue W. and Black Creek Drive	Right turn lanes on each approach
York	Jane Street and Eglinton Avenue W.	Southbound right turn lane
York	Keele Street/ Eglinton Avenue W./ Trethewey	Southbound right turn lane (requires minor property acquisition from City of York Board of Education)

5.2.2 Long Term Improvements

In the long term a number of other options are available at other problem intersections, however, due to existing land use constraints these improvements cannot be achieved without acquiring properties, or parts of properties, with existing buildings. Therefore, the improvements would have to await redevelopment at the intersections, at which time the appropriate setbacks to permit the intersection improvements can be identified and requested as part of the site planning process.

Improvements at the following intersections have been identified but immediate implementation is not possible without major property impacts and high property acquisition costs.

<u>City</u>	<u>Intersection</u>	<u>Improvement</u>
Toronto	Dufferin St. and Davenport Rd.	Northbound and Southbound left turn lanes if the Southwest corner redevelops
Toronto	Dufferin St. and Dupont Street	Westbound right turn lane and Northbound and Southbound left turn lanes if the Northeast and Southwest corners redevelop
Toronto	Bloor St. W. and Keele Street	Westbound right turn lane if the Northeast corner redevelops
York	Rogers Rd. and Keele Street	Southbound right turn if the Northwest corner redevelops
Toronto	Keele St. and St. Clair Ave.W.	Westbound right turn lane if the Northeast corner redevelops
Toronto	St. Clair Ave.W. and Old Weston Rd.	Eastbound right turn lane if the Southwest corner redevelops
York	Rogers Rd. and Weston Road	Northbound right turn lane if the Southeast corner redevelops and realign lanes with the north leg of the intersection
Toronto	Dundas St. W. and Keele Street.	Eastbound right turn lane

If the lands abutting the above intersections redevelop, the appropriate intersection should again be studied in detail to determine whether or not the recommended improvements are still relevant and to determine the feasibility of the improvement. This would be based on the development of functional plans for each of the aforementioned intersections, recognizing the achievement of the improvements could

depend on which quadrant of the intersection develops first. In order that the appropriate agencies who would conduct the detailed investigations are notified of redevelopment, the lands abutting each of the above intersections should be subject to the site plan control process.

The identification of possible geometric improvements does not include all the intersections identified as capacity deficient. At these other locations no improvements were identified that could be reasonably implemented either within the short term or in the long term.

5.2.3 Evaluation of Intersection Improvements

The effectiveness of above identified intersection improvements were evaluated based on a number of traffic and land/use objectives as criteria, and each intersection was ranked as to whether or not there was a positive, neutral or negative effect on the overall criteria. The results of this ranking is presented in Appendix D.

This exercise was undertaken to determine which intersections would benefit the most due to geometric improvements and to identify a priority for the intersection improvements.

The highest ranking intersection improvements are the southbound left turn lane at the intersection of Dufferin and Dupont Streets, and the eastbound right turn lane at St. Clair Avenue West and Old Weston Road.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

Existing traffic operations within the Weston/St.Clair area generally operate at an acceptable level of service relative to other areas of Metro Toronto. Some specific movements at intersections in the study area (18 in both the a.m. and p.m. peak hours) are approaching, or are at, capacity, with generally poorer conditions observed in the p.m. peak hour compared to the a.m. peak hour.

Although the Weston/St.Clair area is generally considered a mature and stable area, a four percent growth in residential and commercial development is forecast for the period between 1986-1991. The traffic generated by these new developments, plus an overall increase in the background level of traffic, will exacerbate the existing intersection capacity problems and will result in eight additional movements being at or near capacity by 1991.

Due to the mature nature of the study area, most buildings are built at or close to existing street lines and, therefore, few opportunities exist to widen roads or intersections to improve traffic flow. Notwithstanding this fact, three areas of potential improvements have been identified to improve the capacity of the problem intersections:

- (i) signal timing improvements;
- (ii) geometric improvements that can be implemented in the near term (3 intersections); and
- (iii) geometric improvements dependent on redevelopment (8 intersections).

6.2

Recommendations

It is recommended that:

- (i) the Roads and Traffic Department be requested to review during 1988, and periodically thereafter, the signal timings at all intersections adjacent to and within the study area to ensure that the maximum performance is derived from the existing road network;
- (ii) the following intersections should be geometrically improved at the earliest possible date:

	<u>Cost Estimate</u>	<u>Municipality</u>
Eglinton Avenue West/Keele Street/Trethewey Drive SB right turn lane	\$85,000.00	York
Eglinton Avenue West and Black Creek Drive Right turn lanes on each approach	\$260,000.00	York
Eglinton Avenue West and Jane Street SB right turn lane	\$53,000.00	York

- (iii) The cities of Toronto and York take appropriate actions required to ensure that the relevant intersections listed in Section 5.2.2 are placed under Site Plan Control in order to protect the option for implementing the identified intersection improvements. All improvements would be subject to conformation through a further review based on traffic/transit conditions at the time of redevelopment. Such reviews shall have regard for land use compatibility in addition to traffic and transit improvement objectives.

Table 1.

**Growth in Total Vehicles Crossing Metro Cordon Count
Screenlines in the Vicinity of St. Clair/Weston Road**

Screenline		Total Vehicles		% Change
		1979	1985	
North-South Screenlines (east-west travel)				
- Dundas Street to south of Highway 401				
A.M. Peak Hour				
Humber River	Inbound	5,614	6,117	9.0
	Outbound	3,894	3,521	-9.6
Newmarket Subdivision	Inbound	6,065	6,856	13.0
	Outbound	4,168	4,237	1.7
P.M. Peak Hour				
Humber River	Inbound	4,756	5,115	7.5
	Outbound	5,422	5,397	-0.1
Newmarket Subdivision	Inbound	5,698	6,446	13.1
	Outbound	6,639	7,172	8.0
East-West Screenlines (north-south travel)				
- Humber River to and including W.R.Allen Road				
A.M. Peak Hour				
Highway 401	Inbound	9,952	10,262	3.1
	Outbound	11,571	12,910	11.6
Eglinton	Inbound	6,262	7,554	20.6
	Outbound	7,020	8,200	16.8
P.M. Peak Hour				
Highway 401	Inbound	10,219	10,787	5.6
	Outbound	12,481	13,519	8.3
Eglinton	Inbound	7,241	8,796	21.5
	Outbound	6,928	8,715	25.8

Table 2.
Growth in Surface Transit Passenger Volumes

			Total Passengers 1980	1985	% Change
North-South Travel⁽¹⁾					
A.M. Peak Hour					
Across Eglinton Avenue	Northbound		1,993	2,919	46.6
	Southbound		2,198	3,443	56.6
Across St.Clair Avenue	Northbound		1,488	1,971	32.5
	Southbound		2,637	3,527	33.8
P.M. Peak Hour					
Across Eglinton Avenue	Northbound		2,742	3,185	16.1
	Southbound		2,451	2,959	20.7
Across St.Clair Avenue	Northbound		2,951	2,985	1.2
	Southbound		2,266	2,104	-7.1
East-West Travel⁽²⁾					
A.M. Peak Hour					
Across Bathurst Street	Eastbound		2,898	3,246	12.1
	Westbound		780	723	-7.3
Across Dufferin Street	Eastbound		1,656	1,994	20.4
	Westbound		595	955	60.5
Across Keele Street	Eastbound		887	1,126	26.9
	Westbound		476	1,051	120.8
P.M. Peak Hour					
Across Bathurst Street	Eastbound		1,059	1,464	38.2
	Westbound		2,720	2,290	-15.8
Across Dufferin Street	Eastbound		892	1,126	26.2
	Westbound		1,366	1,744	27.7
Across Keele Street	Eastbound		732	946	29.2
	Westbound		841	1,050	24.9

Notes:

(1) between Jane Street and Bathurst Street

(2) between St.Clair Avenue and Eglinton Avenue

Table 3

Projected Net Change Land/use (1986-1991)

City of Toronto District	Residential	Landuse Category Institutional	Office	Retail	Industrial	Other*	Total
Oakwood	878	0	0	8,289	0	-2,902	6,265
Dufferin/Davenport	10,807	0	233	191	-45	425	11,633
Walace/Emmerson	56,636	3,413	194	806	1,447	21,351	83,847
Silverthorn	-277	356	0	673	0	0	752
Davenport W.	-233	0	1,457	1,950	-3,078	-530	-434
Junction Triangle	14,207	0	10,710	10,125	9,983	24,289	69,314
South Junction	1,334	533	690	-185	-533	573	2,412
S.W. Junction	2,626	0	-362	404	0	64	2,732
Humberside	18,125	353	1,072	6,371	0	10,462	36,383
Stockyards	-309	0	-117	7,424	8,144	8,181	23,323
TOTAL	103,794	4,655	13,899	36,048	15,918	61,913	

* includes ancillary office, specialty retail and laboratory, etc. uses.

Table 4.
Additional 1991 Auto and Transit Trips
A.M. Peak Hour

Land Use	Auto Trips		Transit Trips	
	Inbound	Outbound	Inbound	Outbound
Residential	130	430	60	310
Institutional	15	5	10	5
Office	95	20	160	40
Retail	110	20	40	10
Industrial	65	15	65	15
Other*	185	40	145	45
Total	600	530	480	415

* Includes ancillary office, specialty retail and laboratory, etc. uses.

ROUTE SECTION SPEEDS

Table 5

Route Number	Route Name	Section Within Study Area		Distance In M	Average Speed (MPH)		
		From	To		Section Within Study Area		Entire Route Peak Period
					AM	PM	
047	Lansdowne	Lansdowne @ Bloor St. West	Loop (Lansdowne) @ St. Clair Ave.	2,137	8.9	8.9	9.7
004	Annette	Jane @ Bloor	Dupont @ Dufferin	5,382	10.6	10.0	
030	Lambton	Dundas St. West @ Jane	High Park @ Subway Station	3,056	11.4	11.4	10.7
071	Runnymede	Runnymede @ Subway Station	Loop (Maybank) @ St. Clair Ave.	3,362	7.0	7.8	7.7
079	Scarlett	Runnymede @ Subway Station	Pritchard @ Weston	3,227	12.0	12.0	12.7
040	Junction	Loop (Runnymede)	Dundas St. West @ Subway Station	2,944	8.4	7.3	7.6
089	Weston	Keele @ Subway Station	Weston Rd. @ Eglinton	4,461	9.2	9.2	8.8
048	Humber	Outlook @ Jane	Loop (Bicknell) @ Rogers Rd.	2,497	11.6	11.6	9.6
041	Keele	Symington @ Bloor	Keele @ Eglinton	4,759	9.3	9.3	11.0
018	Caledonia	Wade @ Lansdowne Subway Station	Caledonia @ Eglinton Ave. West	4,329	11.5	11.5	11.9
029	Dufferin	Bloor St. West @ (Subway Station)	Dufferin @ Eglinton Ave. West	4,178	12.0	12.0	9.9
063F	Ossington	Loop (Bicknell) @ Rogers Rd.	Rogers Rd. @ Dufferin	2,361	8.8	9.8	9.0
512	St. Clair	Loop (Maybank) @ St. Clair Ave. West	St. Clair @ Dufferin	2,417	6.9	6.9	7.4
127	Davenport	Connolly @ Laughton	Davenport @ Dufferin	1,377	12.8	12.8	9.4
032	Eglinton	Eglinton @ Jane	Eglinton @ Dufferin	4,114	9.0	9.0	11.3
035	Jane	Jane @ Subway Station	Jane @ Eglinton Ave. West	4,289	12.3	12.3	12.5



ST. CLAIR AVE./WESTON RD. TRAFFIC MANAGEMENT STUDY

FIGURE 1

STUDY AREA CONTEXT

September, 1987

PREPARED AND ISSUED BY METROPOLITAN TORONTO PLANNING DEPARTMENT

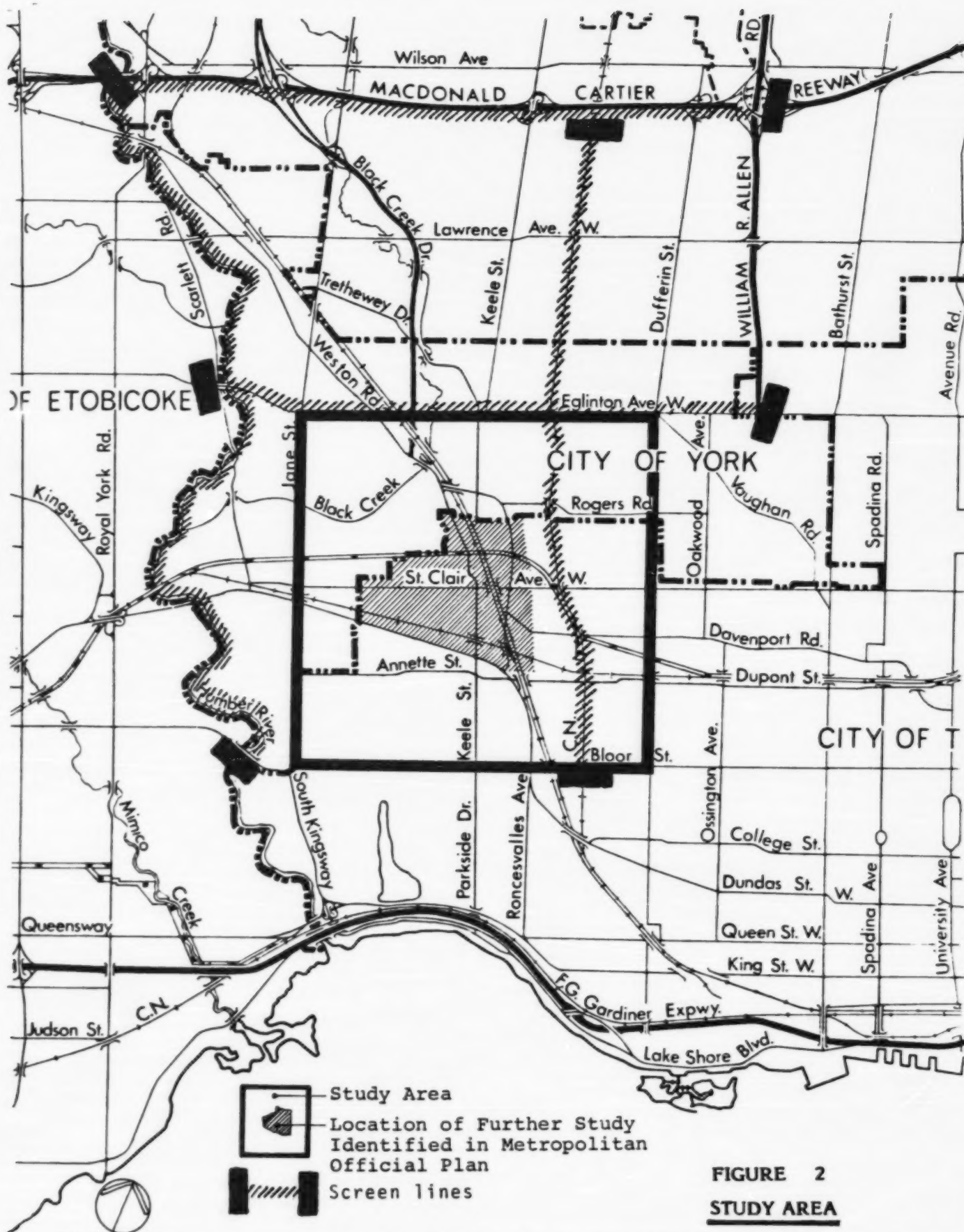
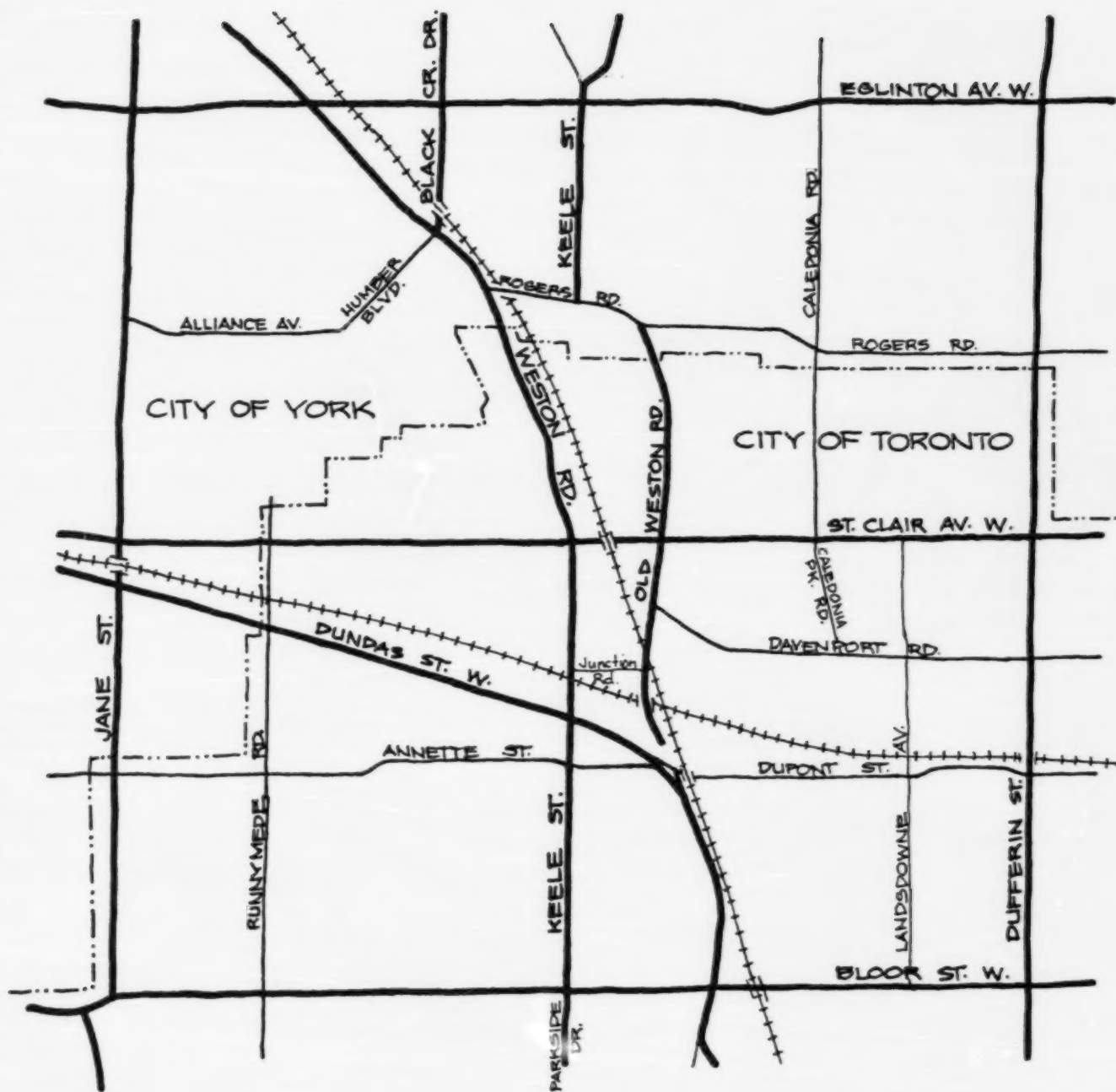


FIGURE 2
STUDY AREA



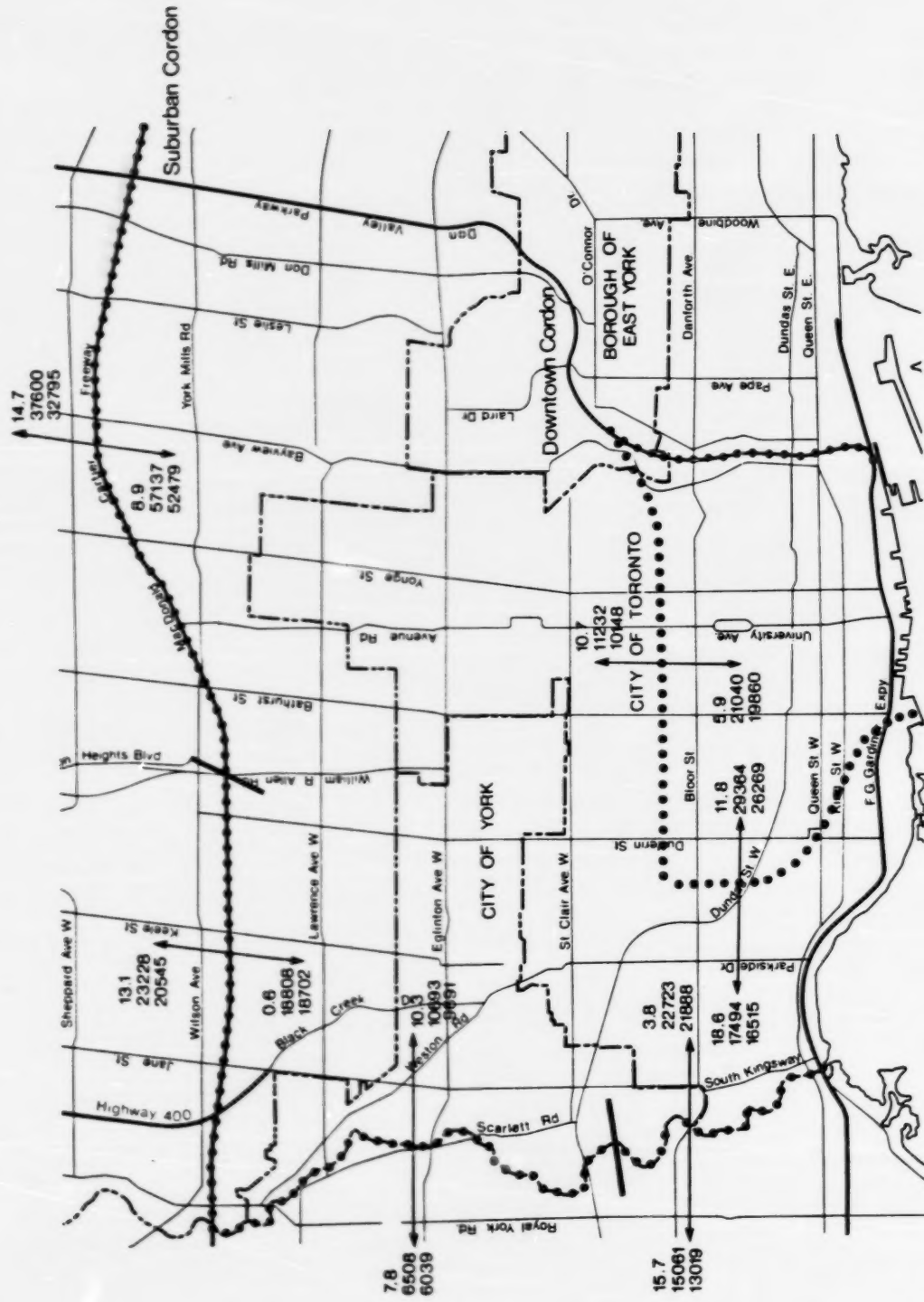
ST. CLAIR AVE./WESTON RD. TRAFFIC MANAGEMENT STUDY

- ++++ CP & CN Rail lines
- Local Roadways
- Metro Toronto Roadways
- Municipal Area Boundary

FIGURE 3
EXISTING ROAD JURISDICTION

0 300 1000 M

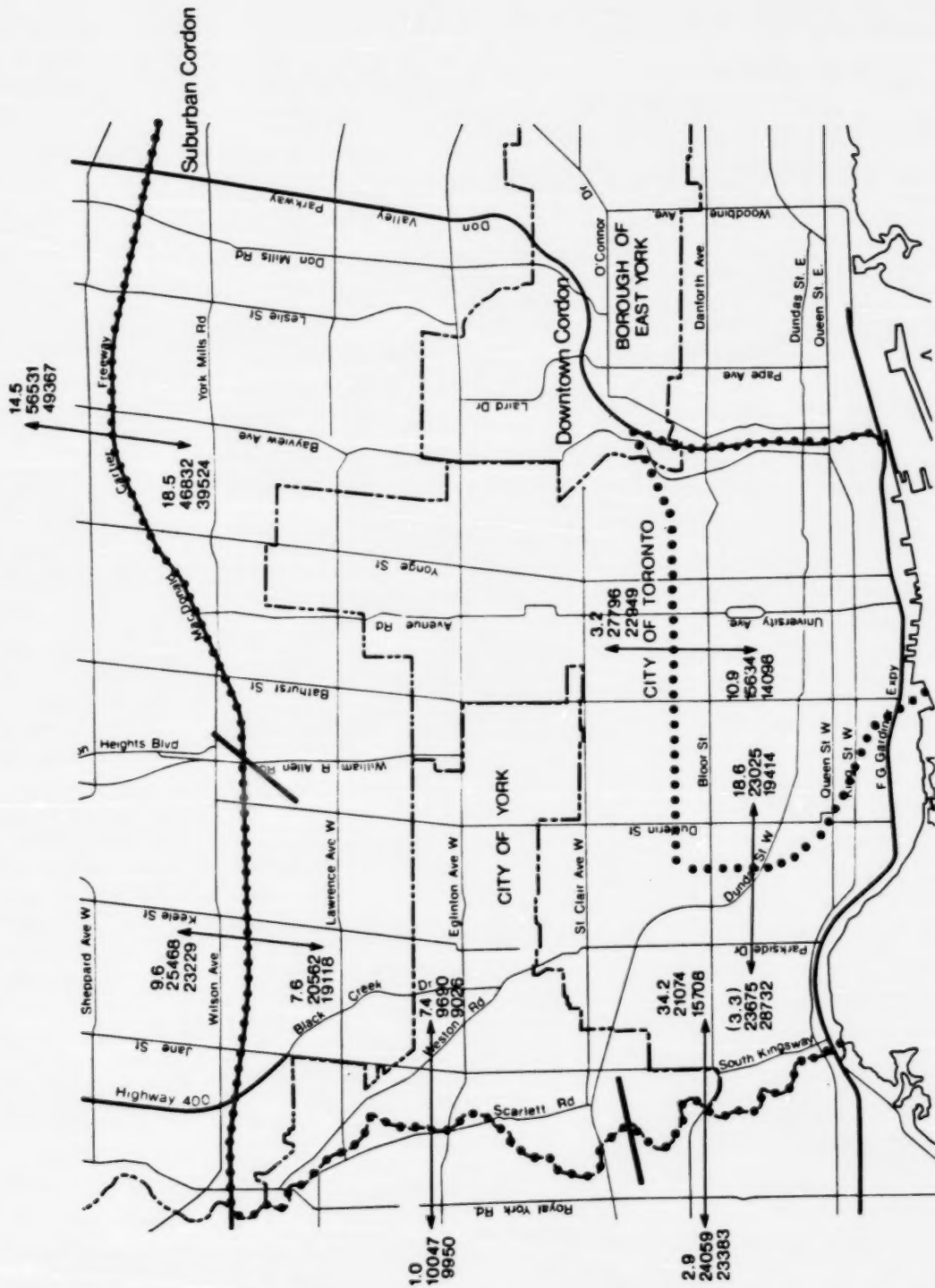
September, 1987



% Change 1979 - 1985 () Negative
 1985 - 22326
 1979 - 13019

FIGURE 4
TOTAL VEHICLES CROSSING SCREENLINE
SEGMENTS A.M. PEAK PERIOD (7:00-9:00)

September, 1987
 Source: Metro Toronto Cordon Count



0/0 Change 1979 - 1985 () Negative
 1985 - 27796
 1979 - 9957

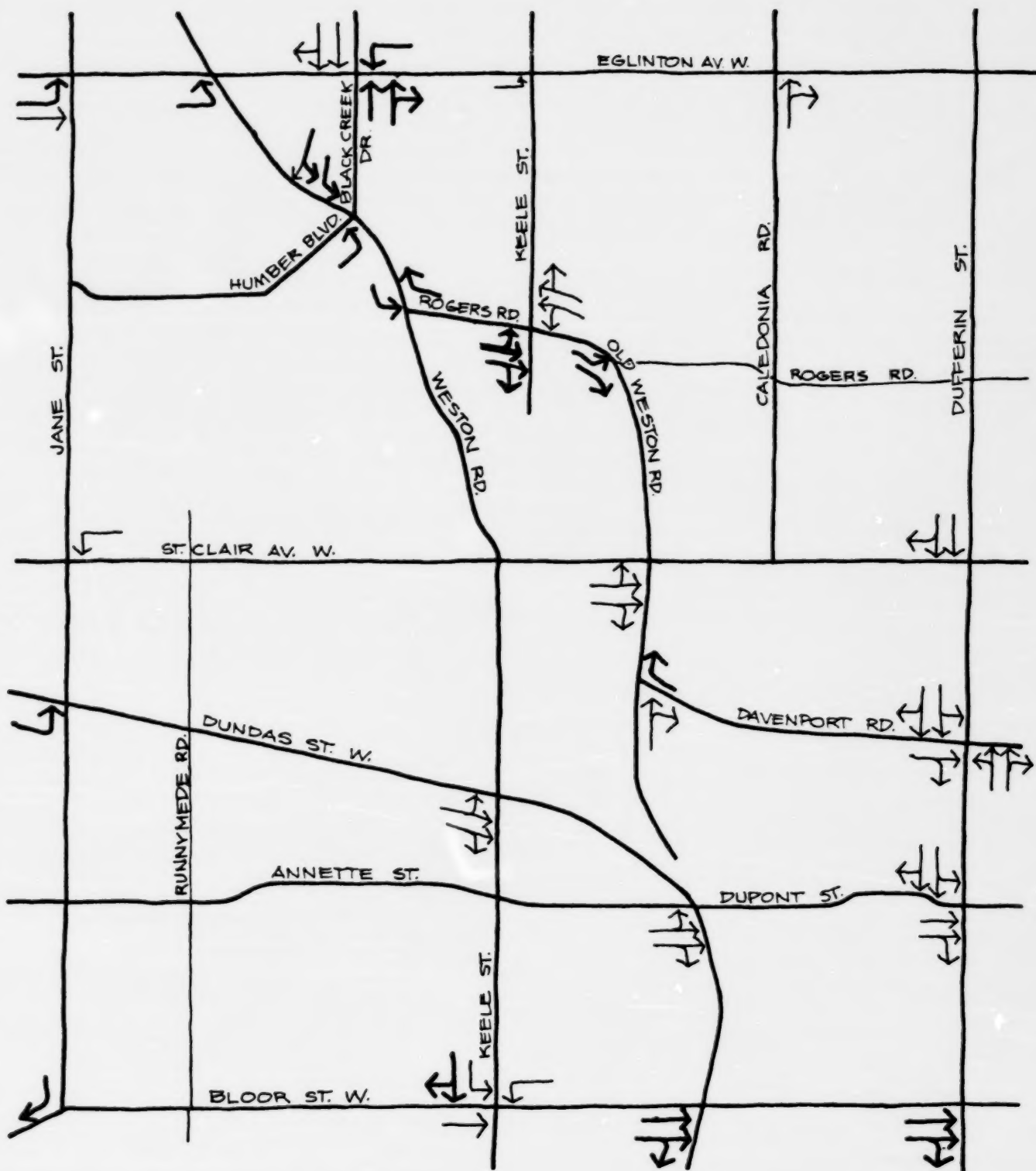


September, 1987

Source: Metro Toronto Cordon Count

FIGURE 5

TOTAL VEHICLES CROSSING SCREENLINE
 SEGMENTS P.M. PEAK PERIOD (4:00-6:00)

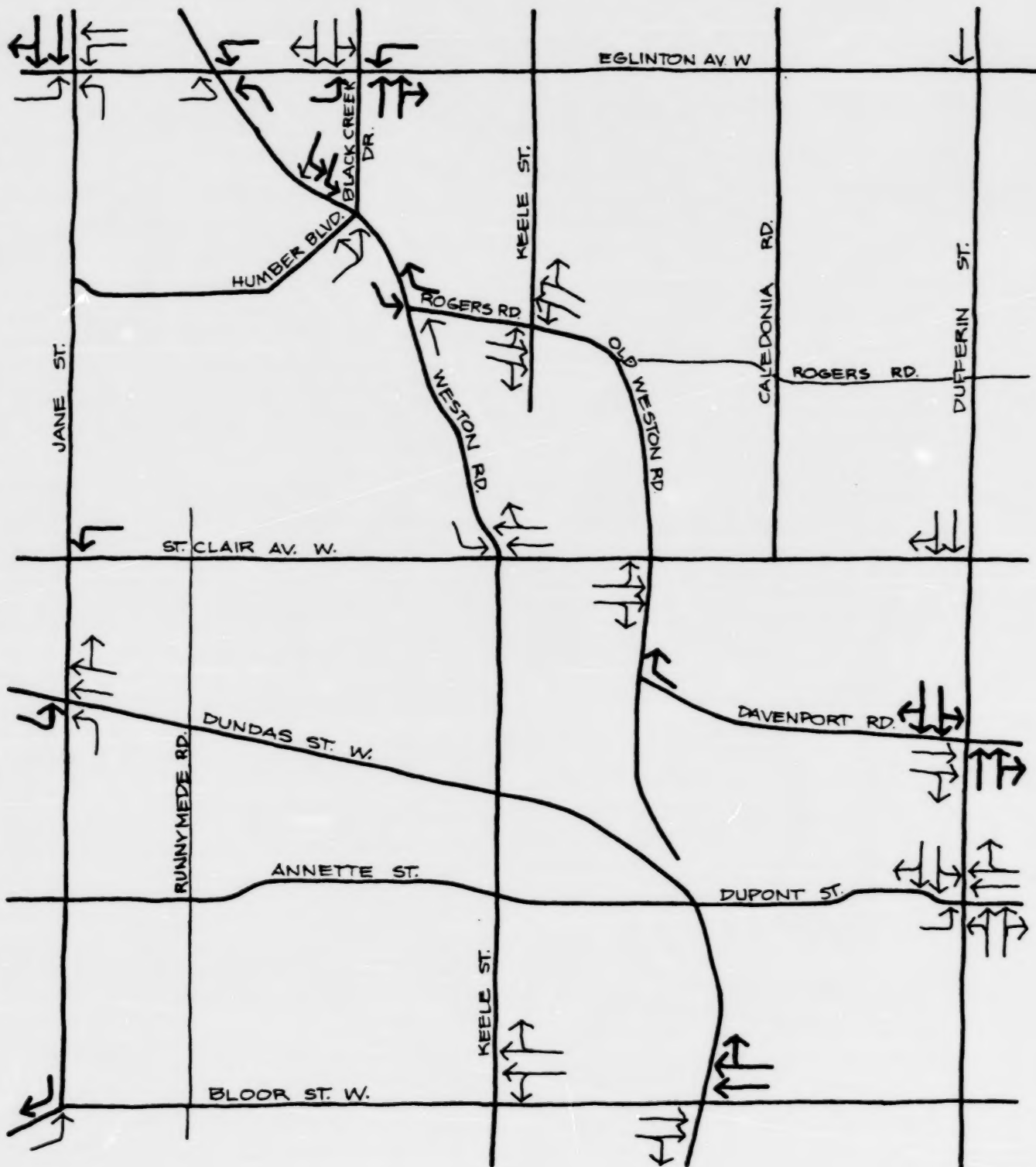


SCHEMATIC/ARTICULATED
SCALE:

September, 1987

FIGURE 6
EXISTING PROBLEM INTERSECTIONS AM PEAK HOUR

- ← Intersection Movements with Volume Demand between 80 Percent and 100 Percent of Theoretical Capacity.
- ← Intersection Movements with Volume Demand Greater than 100 Percent of Theoretical Capacity.

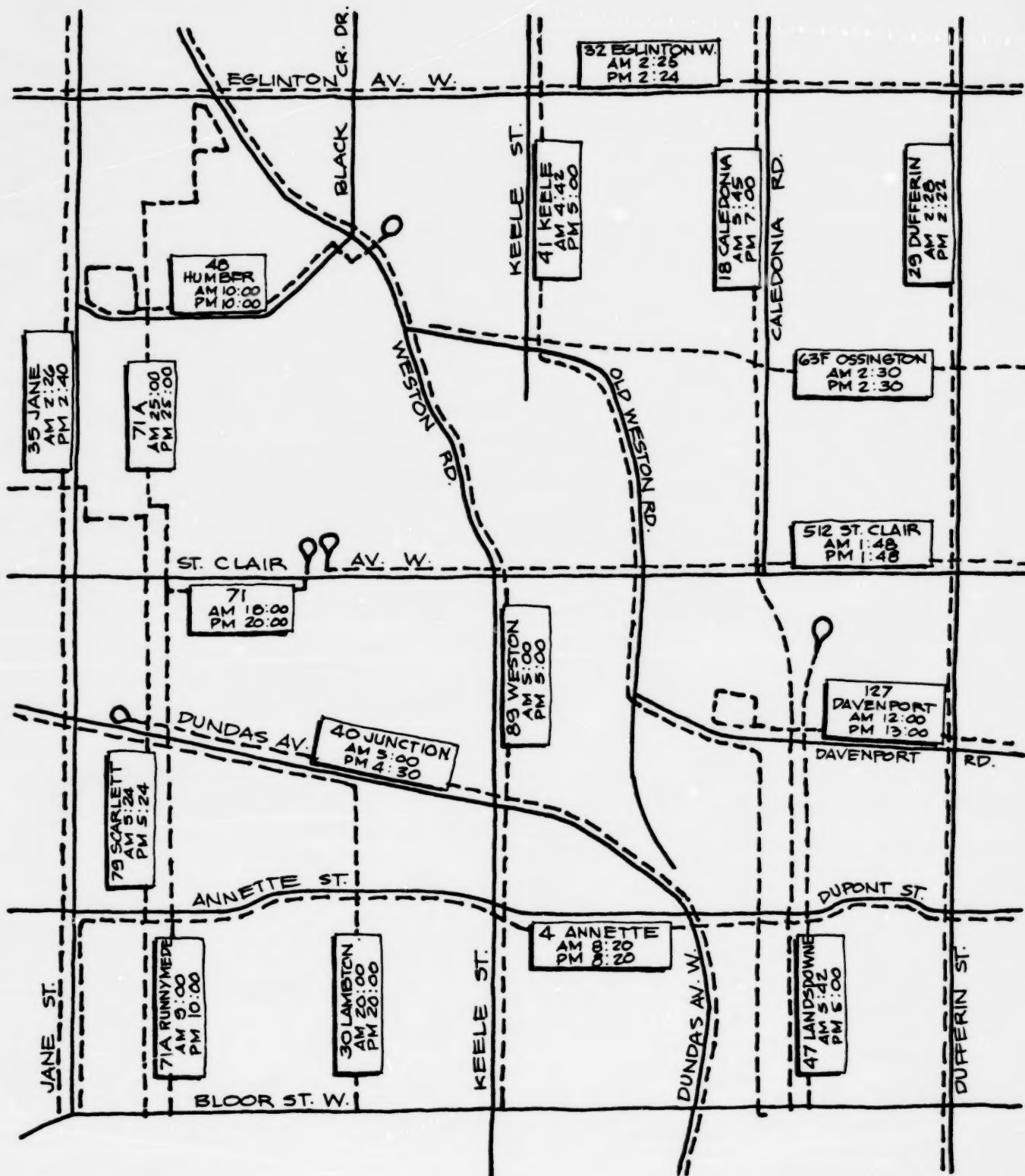


SCHEMATIC/ARTICULATED
SCALE:

September, 1987

FIGURE 7
EXISTING PROBLEM INTERSECTIONS PM PEAK HOUR

- ← Intersection Movements with Volume Demand between 80 Percent and 100 Percent of Theoretical Capacity.
- ← Intersection Movements with Volume Demand Greater than 100 Percent of Theoretical Capacity.



SCHEMATIC/ARTICULATED
SCALE:

September, 1987

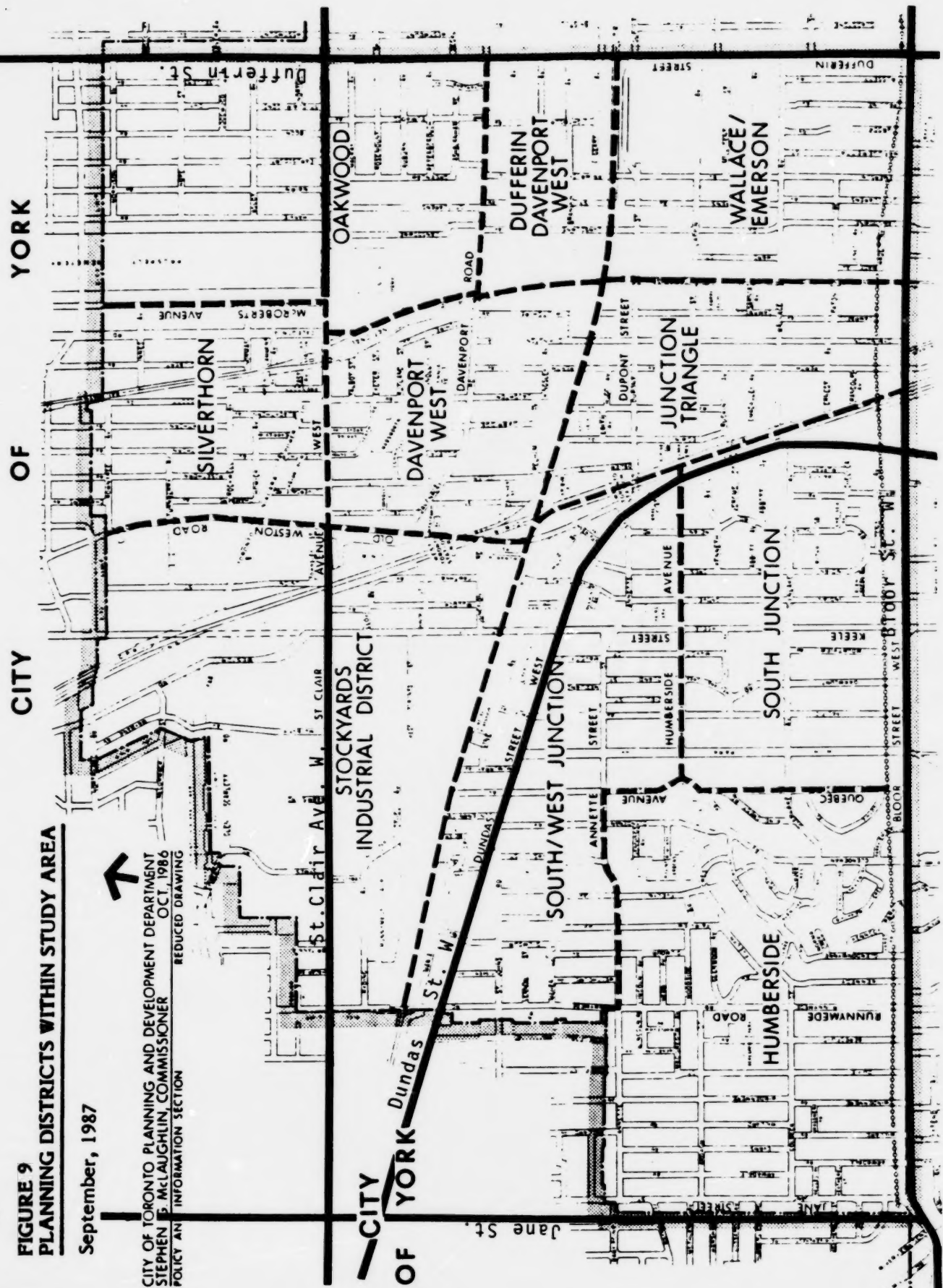
ST. CLAIR AVE. / WESTON RD. TRAFFIC MANAGEMENT STUDY

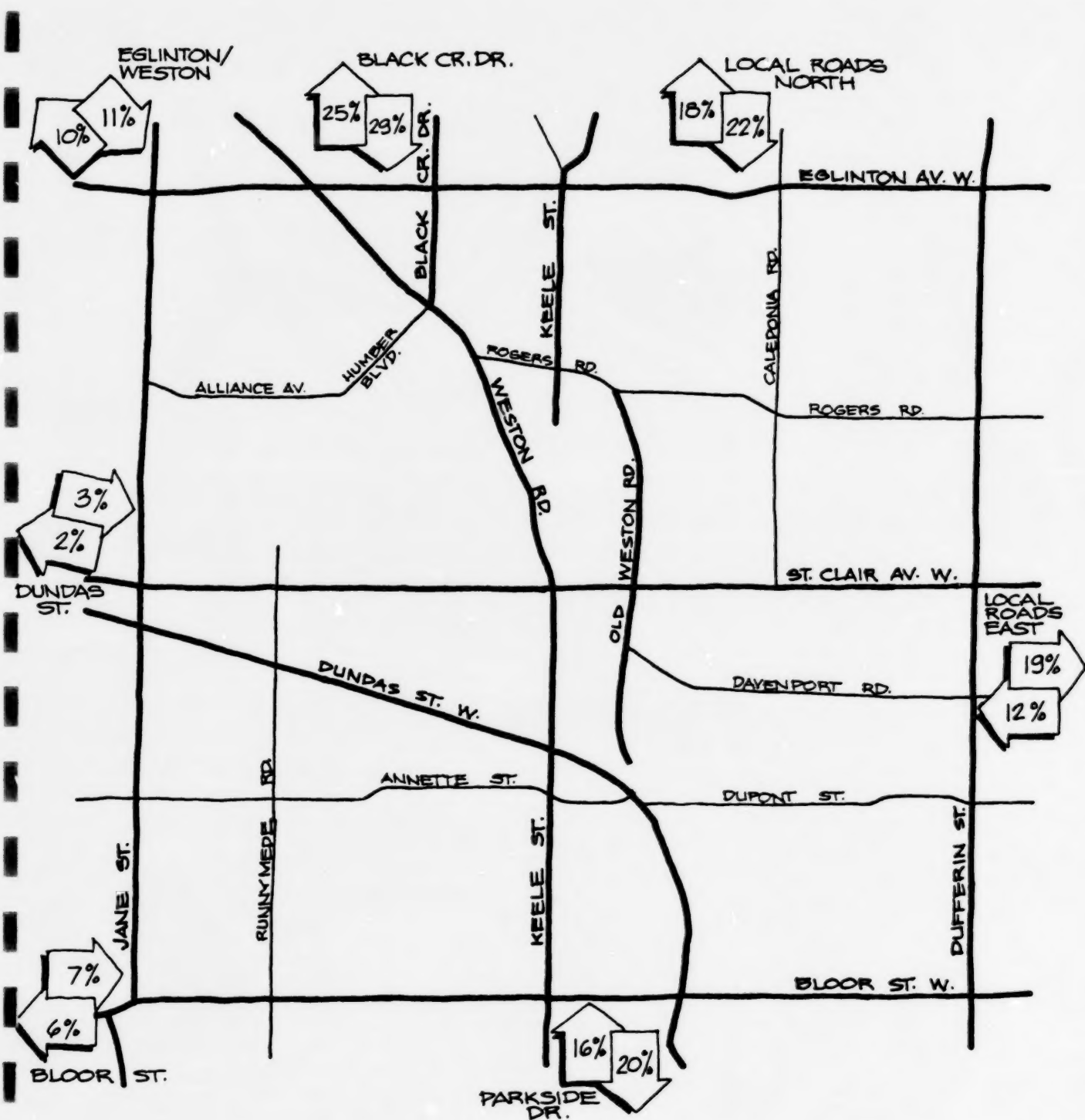
FIGURE 8
EXISTING TRANSIT ROUTES
AND PEAK HOUR HEADWAYS

FIGURE 9
PLANNING DISTRICTS WITHIN STUDY AREA

September, 1987

CITY OF TORONTO PLANNING AND DEVELOPMENT DEPARTMENT
STEPHEN B. McLAUGHLIN, COMMISSIONER
OCT. 1986
REDUCED DRAWING
POLICY AND INFORMATION SECTION





ST. CLAIR AVE./WESTON RD. TRAFFIC MANAGEMENT STUDY



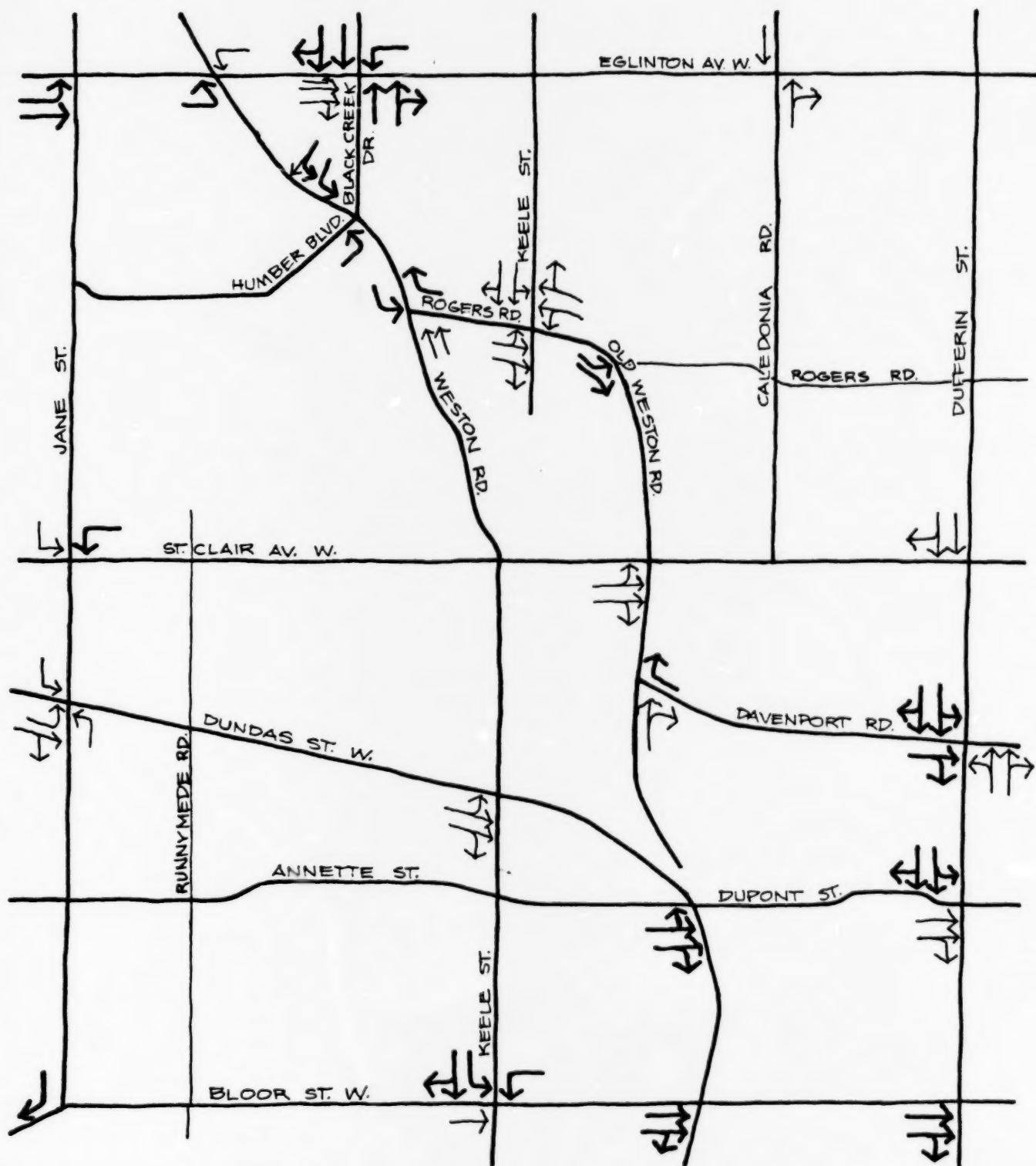
0 300 1000 M

September, 1987



1991 Inbound
1991 Outbound

FIGURE 10
1991 A.M. PEAK HOUR AUTO DISTRIBUTIONS



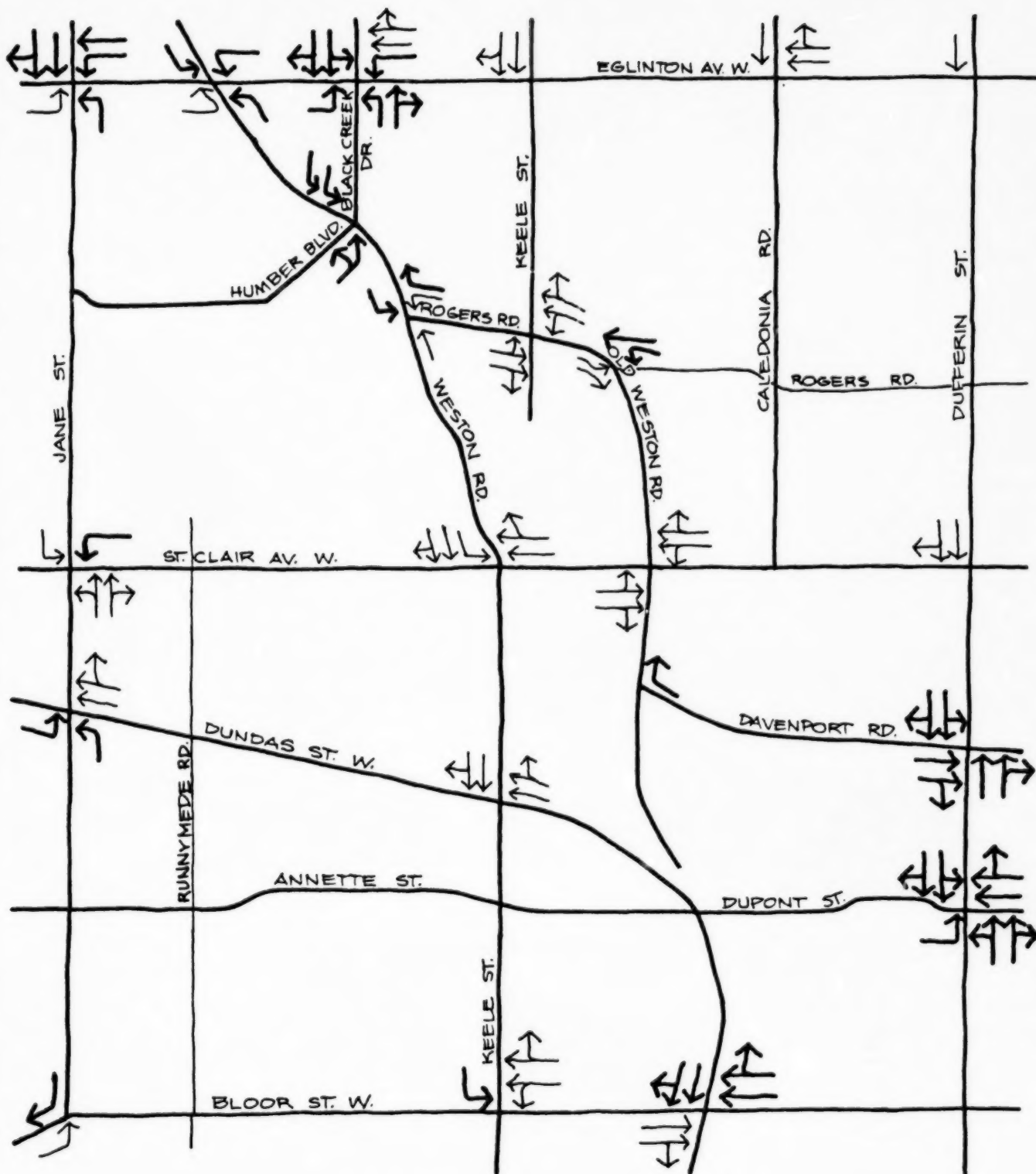
SCHEMATIC/ARTICULATED
SCALE:

September, 1987

FIGURE 11

FUTURE (1991) PROBLEM INTERSECTIONS AM PEAK HOUR

- ← Intersection Movements with Volume Demand between 80 Percent and 100 Percent of Theoretical Capacity.
- ← Intersection Movements with Volume Demand Greater than 100 Percent of Theoretical Capacity.




 SCHEMATIC/ARTICULATED
 SCALE:

September, 1987

FIGURE 12
 FUTURE (1991) PROBLEM INTERSECTIONS PM PEAK HOUR

-  Intersection Movements with Volume Demand between 80 Percent and 100 Percent of Theoretical Capacity.
-  Intersection Movements with Volume Demand Greater than 100 Percent of Theoretical Capacity.

APPENDIX A.

LAND USE

TABLE 1
EXISTING GROSS FLOOR AREA (M2)
BY MAJOR LAND USE CATEGORY

Planning Area	Residential	Institutional	Office	Retail	Industrial	Other	Total
Oakwood	313,996	27,464	10,391	25,348	984	295,116	673,299
Dufferin/Davenport	46,033	159	1,616	12,476	164,439	26,641	251,363
Wallace/Emerson	255,434	22,555	13,137	47,983	93,498	149,512	581,009
Silverthorn	172,298	13,129	3,200	8,235	11,066	12,120	220,047
Davenport West	189,085	30,803	5,902	17,176	54,228	71,763	368,957
Junction Triangle	159,240	18,235	6,984	25,687	64,690	109,420	404,256
South Junction	609,738	7,383	6,218	23,856	17,222	259,322	923,739
South/West Junction	348,451	36,927	22,827	76,089	29,215	87,522	601,030
Humberside	511,650	102,991	12,698	32,242	901	113,309	773,791
Stockyard District	58,503	4,078	30,268	50,399	313,676	474,338	891,462
Total	2,664,428	267,712	113,241	319,390	779,109	1,557,663	5,697,943

TABLE 2
PERCENTAGE DISTRIBUTION OF EXISTING GFA (M2)
BY MAJOR LAND USE CATEGORY

Planning Area	Residential	Institutional	Office	Retail	Industrial	Other	Total
Oakwood	11.78%	10.41%	9.18%	7.94%	0.15%	18.95%	11.84%
Dufferin/Davenport	1.73%	0.06%	1.43%	3.91%	21.35%	1.71%	4.42%
Wallace/Emerson	9.59%	8.55%	11.60%	14.99%	12.14%	9.54%	10.21%
Silverthorn	6.47%	4.93%	2.93%	2.58%	1.44%	0.78%	3.87%
Davenport West	7.10%	11.89%	5.21%	5.38%	7.04%	4.61%	6.49%
Junction Triangle	5.98%	6.91%	6.17%	8.04%	11.00%	7.03%	7.11%
South Junction	22.98%	2.60%	5.49%	7.47%	2.24%	18.59%	16.31%
South/West Junction	13.08%	14.00%	20.16%	23.82%	3.79%	5.62%	18.57%
Humberside	19.20%	39.65%	11.21%	10.09%	0.12%	7.28%	13.60%
Stockyard District	2.20%	1.55%	26.73%	15.78%	40.76%	27.89%	15.67%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

TABLE 3
PERCENTAGE DISTRIBUTION OF EXISTING GFA (M2)
BY PLANNING AREA

Planning Area	Residential	Institutional	Office	Retail	Industrial	Other	Total
Oakwood	46.64%	4.08%	1.54%	3.76%	0.15%	47.83%	100.00%
Dufferin/Davenport	18.31%	0.06%	0.64%	4.96%	65.42%	10.60%	100.00%
Wallace/Emerson	43.96%	3.88%	2.26%	8.24%	16.09%	25.56%	100.00%
Silverthorn	78.30%	5.97%	1.45%	3.74%	5.03%	5.51%	100.00%
Davenport West	51.25%	8.35%	1.60%	4.66%	14.70%	19.45%	100.00%
Junction Triangle	39.39%	4.51%	1.73%	6.35%	20.65%	27.97%	100.00%
South Junction	66.98%	0.80%	0.57%	2.59%	1.37%	28.69%	100.00%
South/West Junction	57.98%	6.14%	3.80%	12.66%	4.86%	14.56%	100.00%
Humberside	66.12%	13.31%	1.64%	4.17%	0.12%	14.84%	100.00%
Stockyard District	6.56%	0.46%	3.40%	5.65%	35.21%	48.72%	100.00%
Total	46.84%	4.64%	1.99%	5.62%	13.54%	27.37%	100.00%

St. Clair/Weston Traffic Management Study

TABLE 4
PROPOSED GROSS FLOOR AREA (M2)
BY MAJOR LAND USE CATEGORY

Planning Area	Residential	Institutional	Office	Retail	Industrial	Other	Total
Oakwood	878	0	0	8,329	0	(2,902)	6,255
Dufferin/Davenport	10,807	0	255	191	(45)	425	11,633
Wallace/Emerson	56,636	3,413	194	506	1,447	21,351	83,547
Silverthorn	(277)	356	0	673	0	0	752
Davenport West	(233)	0	1,457	1,950	(3,079)	(530)	(434)
Junction Triangle	14,207	0	10,710	10,125	9,983	24,269	69,294
South Junction	1,334	533	690	(155)	(533)	573	2,412
South/West Junction	2,626	0	(362)	404	0	64	2,732
Humberside	18,125	353	1,372	6,371	0	10,461	36,783
Stockyard District	(309)	0	(117)	7,424	8,144	9,161	25,323
Total	103,794	4,655	13,999	36,048	15,918	61,913	236,227

TABLE 5
PERCENTAGE DISTRIBUTION OF PROPOSED GFA (M2)
BY MAJOR LAND USE CATEGORY

Planning Area	Residential	Institutional	Office	Retail	Industrial	Other	Total
Oakwood	0.85%	0.00%	0.00%	22.99%	0.00%	-4.69%	2.65%
Dufferin/Davenport	10.41%	0.00%	1.93%	0.53%	-0.35%	0.69%	4.92%
Wallace/Emerson	54.57%	73.32%	1.40%	2.24%	9.09%	34.49%	35.49%
Silverthorn	-0.27%	7.65%	0.00%	1.97%	0.00%	0.00%	0.70%
Davenport West	-0.22%	0.00%	10.48%	5.41%	-19.34%	-0.86%	-0.16%
Junction Triangle	13.69%	0.00%	77.06%	28.09%	62.72%	39.23%	29.31%
South Junction	1.29%	11.45%	4.96%	-0.51%	-3.35%	0.93%	1.02%
South/West Junction	2.53%	0.00%	-2.60%	1.12%	0.00%	0.10%	1.12%
Humberside	17.46%	7.56%	7.71%	17.67%	0.00%	15.90%	15.40%
Stockyard District	-0.30%	0.00%	-0.94%	20.59%	51.16%	17.31%	9.97%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

TABLE 6
PERCENTAGE DISTRIBUTION OF PROPOSED GFA (M2)
BY PLANNING AREA

Planning Area	Residential	Institutional	Office	Retail	Industrial	Other	Total
Oakwood	14.01%	0.00%	0.00%	132.31%	0.00%	-46.32%	100.00%
Dufferin/Davenport	92.90%	0.00%	2.19%	1.64%	-0.39%	3.65%	100.00%
Wallace/Emerson	67.55%	4.07%	0.23%	0.96%	1.73%	25.46%	100.00%
Silverthorn	-36.84%	47.34%	0.00%	89.49%	0.00%	0.00%	100.00%
Davenport West	53.69%	0.00%	-335.71%	-449.31%	709.22%	122.12%	100.00%
Junction Triangle	20.50%	0.00%	15.45%	14.61%	14.40%	35.04%	100.00%
South Junction	55.31%	22.10%	28.61%	-7.67%	-22.10%	23.76%	100.00%
South/West Junction	96.12%	0.00%	-13.25%	14.79%	0.00%	2.34%	100.00%
Humberside	49.82%	0.97%	2.95%	17.51%	0.00%	28.76%	100.00%
Stockyard District	-1.32%	0.00%	-0.50%	31.83%	34.92%	35.08%	100.00%
Total	43.94%	1.97%	5.88%	15.26%	6.74%	26.21%	100.00%

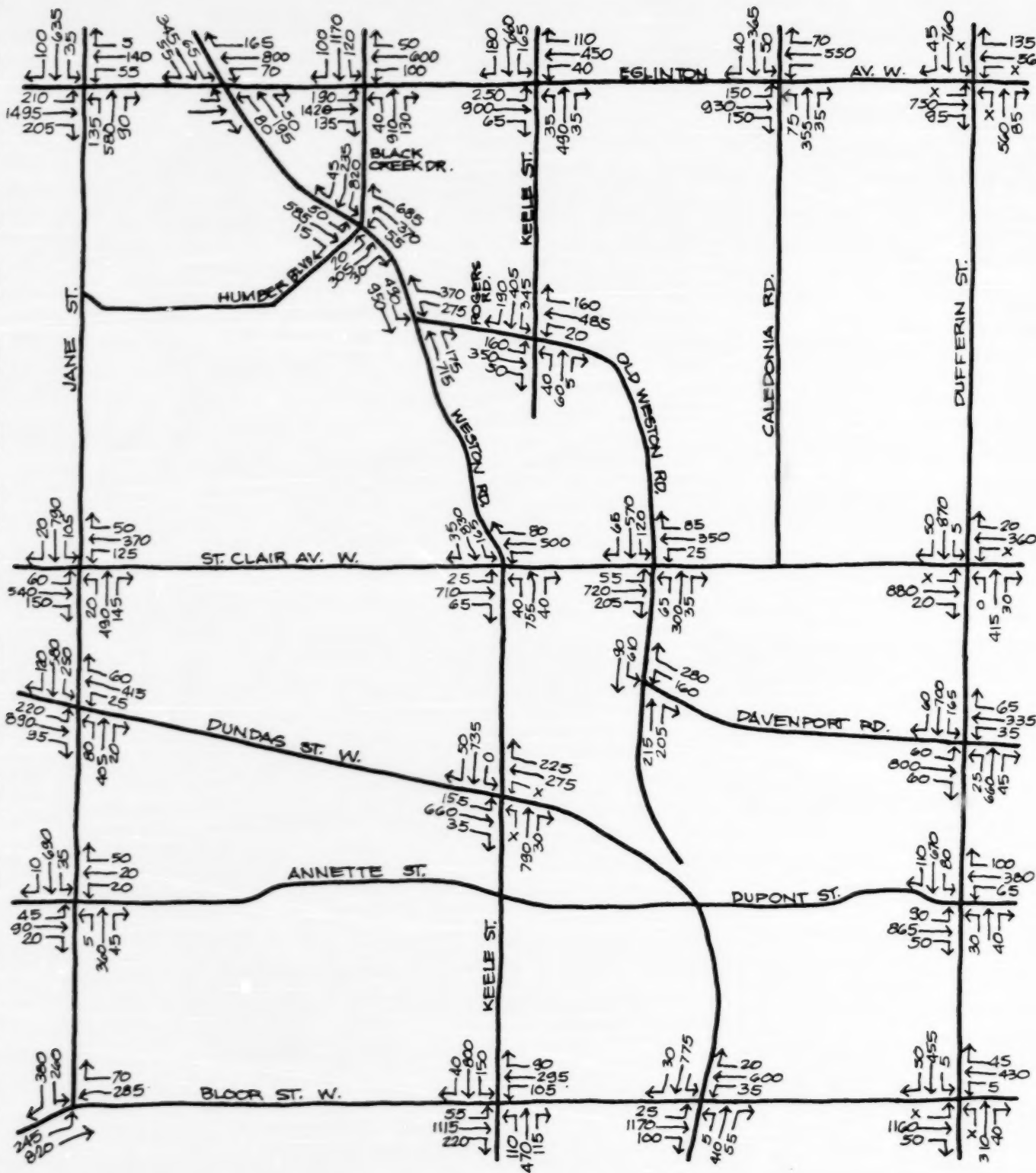
St. Clair/Weston Traffic Management Study

PROPOSED PERCENTAGE INCREASE IN GFA (M2)
BY PLANNING AREA

Planning Area	Residential	Institutional	Office	Retail	Industrial	Other	Total
Oakwood	0.28%	0.00%	0.00%	32.70%	0.00%	-0.98%	0.93%
Dufferin/Davenport	23.48%	0.00%	15.78%	1.53%	-0.03%	1.50%	4.63%
Wallace/Emerson	22.17%	15.13%	1.48%	1.68%	1.55%	14.38%	14.43%
Silverthorn	-0.16%	2.71%	0.00%	8.17%	0.00%	0.00%	0.34%
Davenport West	-0.12%	0.00%	24.69%	11.35%	-5.68%	-0.74%	-0.12%
Junction Triangle	8.92%	0.00%	153.35%	39.42%	11.79%	22.20%	17.15%
South Junction	0.22%	7.22%	11.10%	-0.78%	-3.09%	0.22%	0.26%
South/West Junction	0.75%	0.00%	-1.59%	0.53%	0.00%	0.07%	0.45%
Humberstone	3.54%	0.34%	8.44%	19.76%	0.00%	9.23%	4.70%
Stockyard District	-0.53%	0.00%	-0.39%	14.73%	2.53%	1.98%	2.82%
Total	3.90%	1.77%	12.27%	11.29%	2.07%	3.98%	4.15%

APPENDIX B.

EXISTING TRAFFIC AND TRANSIT CHARACTERISTICS



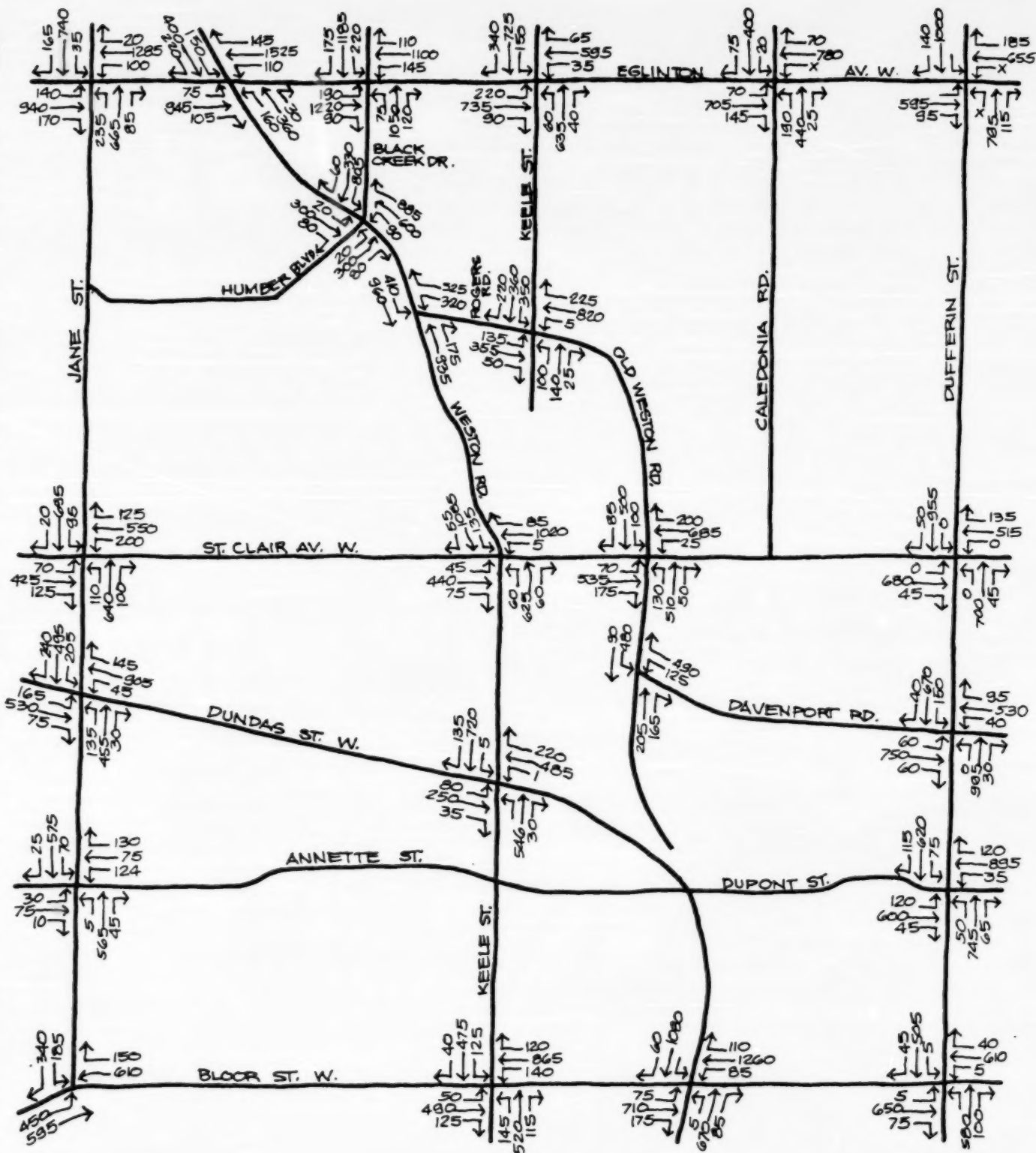
ST. CLAIR AVE. / WESTON RD. TRAFFIC MANAGEMENT STUDY

FIGURE B.1
1986 TRAFFIC VOLUMES A.M. PEAK HOUR

SCHEMATIC/ARTICULATED

SCALE:

September, 1987



ST. CLAIR AVE. / WESTON RD. TRAFFIC MANAGEMENT STUDY

FIGURE B.2
1986 TRAFFIC VOLUMES P.M. PEAK HOUR

SCHEMATIC/ARTICULATED
SCALE:

September, 1987

St. Clair/Weston Traffic Management Study Existing Traffic Conditions

Jane Street

A satisfactory level of service is provided on Jane Street during the A.M. peak hour. During the P.M. peak hour problems occur with northbound left turns at Dundas Street and at Eglinton Avenue. An advanced green feature is currently provided for this movement at Eglinton Avenue. The estimate of the volume to capacity ratio for southbound right turns at Bloor Street may be conservative since right turns are permitted during the red phase.

Weston Road

Weston Road provides a good level of service during the A.M. peak hour. Problems occur only with southbound left turns to Rogers Road. In 1985 this intersection was one of the high accident locations within Metropolitan Toronto. A three phase signal timing scheme was implemented to reduce the conflicts that were occurring, resulting in a reduction of capacity. During the P.M. peak hour the level of service provided is slightly less than satisfactory, with excessive demand for northbound left turns at Eglinton Avenue.

Black Creek Drive

This section of Black Creek Drive is currently at capacity in both directions, during both A.M. and P.M. peak hours.

Keele Street

A good level of service is currently being provided on Keele Street during the A.M. and P.M. peak hours. The only possible exceptions are southbound at Bloor Street where demand is approaching capacity during the morning, and southbound left turns at St. Clair Avenue during the evening rush hour.

Old Weston Road

A satisfactory level of service is being provided on Old Weston Road during both the morning and evening rush hours.

Dufferin Street

Dufferin Street currently provides a poor level of service to southbound motorists in particular, during the morning and evening rush hours. Northbound motorists also experience delays at Davenport Road and Dupont Street during the evening.

Eglinton Avenue

Eglinton Avenue, west of Keele Street provides a poor level of service during both the morning and evening rush hours. Of particular concern are the left turn movements to Black Creek Drive, Weston Road and Jane Street. The remainder of the subject portion of Eglinton Avenue operates satisfactorily during both peak periods.

St. Clair/Weston Traffic Management Study Existing Traffic Conditions

Rogers Road

A poor level of service is provided on Rogers Road during both peak periods. Of particular concern is the intersection at Old Weston Road where the awkward configuration makes traffic operations difficult.

St. Clair Avenue

St. Clair Avenue generally operates at a satisfactory level of service during both peak periods. Problem areas occur with westbound left turns at Jane Street and both eastbound and westbound movements between Keele Street and Old Weston Road.

Davenport Road

Davenport Road appears to offer a poor level of service during both the morning and evening rush hours. Problems occur with westbound right turns at Old Weston Road and the eastbound traffic movements at Dufferin Street. Actual intersection operation at these locations indicate that these estimates of level of service may be conservative.

Dundas Street

Dundas Street is operating at a satisfactory level of service during both peak periods of the day. The only major exception to this conclusion is the awkward intersection at Jane Street where eastbound left turns are at capacity and westbound movements are approaching capacity as well.

Bloor Street

Bloor Street currently offers a poor level of service to eastbound motorists during the morning rush hours and westbound motorists during the evening rush hours.

Table B.1.

St.Clair/Weston Traffic Management Study
1986 Peak Hour Transit Ridership

Time Period	Direction	Peak Point Location	Headway* Min:Sec	Peak Hour Ridership
<u>Annette Trolley Coach (4)</u>				
A.M.	Eastbound	Dupont & Palmerston	8:20	400
P.M.	Westbound	On Annette and Runnymede	8:20	330
<u>Ossington Trolley Coach (63F)</u>				
A.M.	Southbound	Ossington and Pendrith	2:30	1225
P.M.	Northbound	Rogers and Glenholme	2:30	1345
<u>Runnymede Bus (71A)</u>				
A.M.	Southbound	Runnymede and Colback	9:00	190
P.M.	Northbound	Runnymede and Bloor (F.S.)	10:00	190
<u>Davenport Bus (127)</u>				
A.M.	Eastbound	Davenport and Wychwood	12:00	180
P.M.	Westbound	Spadina Station	13:00	130
<u>Caledonia Bus (18)</u>				
A.M.	Northbound	Caledonia and Eglinton	5:45	650
P.M.	Southbound	Caledonia and Eglinton	7:00	440
<u>Junction Trolley Coach (40)</u>				
A.M.	Southbound	Dundas and Glenlake	5:00	395
P.M.	Northbound	Dundas West Station	4:30	480
<u>Weston Trolley Coach (89)</u>				
A.M.	Southbound	Keele and Humberside	5:00	610
P.M.	Northbound	Keele Station	5:00	480
<u>Jane Bus (35)</u>				
A.M.	Southbound	Jane and William Cragg	2:26	1040
P.M.	Northbound	Jane and Weatherell	2:40	945
<u>Lansdowne Trolley Coach (47)</u>				
A.M.	Northbound	Lansdowne at 533 (South of Bloor)	5:42	420
P.M.	Southbound	Lansdowne at Whytock	5:00	650

Table B.1. (Continued)

**St.Clair/Weston Traffic Management Study
1986 Peak Hour Transit Ridership**

Time Period	Direction	Peak Point Location	Headway Min:Sec	Peak Hour Ridership
<u>Keele Bus (41)</u>				
A.M.	Northbound	Keele at Falstaff	4:42	715
P.M.	Southbound	Keele at Falstaff	5:00	540
<u>Eglinton West Bus (32)</u>				
A.M.	Eastbound	Eglinton Marlee	2:25	1365
P.M.	Westbound	Eglinton West Station	2:24	1325
<u>Lambton Bus (30)</u>				
A.M.	Southbound	High Park at Glenlake	20:00	140
P.M.	Northbound	High Park Station	20:00	85
<u>Scarlett Road Bus (79)</u>				
A.M.	Southbound	Runnymede at Annette	5:24	265
P.M.	Northbound	Runnymede at Bloor (F.S.)	5:24	240
<u>Humber Boulevard Bus (48)</u>				
A.M.	Westbound	Cliff at Cordella	10:00	125
P.M.	Westbound	Humber Blvd. at Weston	10:00	90
<u>St. Clair Streetcar (512)</u>				
A.M.	Eastbound	St. Clair at Bathurst	1:48	2065
P.M.	Westbound	St. Clair West Stn.	1:48	2035
<u>Dufferin Bus (29)</u>				
A.M.	Northbound	Dufferin at Key West	2:28	990
P.M.	Southbound	Dufferin at Hunter	2:22	825

*Based on scheduled services for the
October, 1986 Board Period

APPENDIX C.

FUTURE TRAVEL DEMAND METHODOLOGY

APPENDIX C

Future Travel Demand Methodology

The future 1991 auto and transit volumes for the St. Clair/Weston area were calculated based upon the following methodology:

(i) 1991 Background Traffic

The 1991 background levels of traffic were calculated based upon 1986 observed traffic counts for the area factored up by a growth factor of 1% per annum for 1986 to 1991. Table C.1 illustrates the information used to determine the 1% per annum increase.

(ii) Additional 1991 Trip Generation

The additional land use in square metres that is expected to be occupied by 1991 was multiplied by the trip generation rates in Tables C.2 and C.3 to calculate the additional trips generated within, or attracted to, the study area by 1991. The total additional trips generated by 1991 are presented in Table 4 of the report.

(iii) 1991 Trip Distribution

A trip distribution based upon 1991 land use for the Metropolitan area was unavailable at the time of the study. A Fratar factoring technique was used to adjust 1980 origin-destination data to reflect changes in population and employment between 1980 and 1991. Table C.4 and Figure C.1 illustrate the 15 zone system and the data used to calculate the 1991 O-D tables. The 1991 O-D table is presented in Table C.5.

Based upon the distribution of origins and destinations, a 1991 trip distribution was calculated as illustrated on Figure 10 of the report.

(iv) 1991 Trip Assignments

The 1991 additional trips were assigned to the road network based upon the 1991 trip distribution. These trips were added to the 1991 background traffic volumes to produce the 1991 total traffic volumes illustrated in Figures C.2 and C.3

Table C.1.
Background Traffic Volume Increase

Screenline	Travel Demand Model		Black Creek Drive Travel Monitoring Study	
	Forecast Change 1980-2001	% Change Per Year	% Change 1979-85 (Observed)	% Change Per Year
Eglinton Avenue Scarlett - Black Creek Drive	+650 +28%	1.3%	+515 +17%	2.4%
Eglinton Avenue Keele - Dufferin	-700 -29%	-1.3%	+50 +6%	.9%
CNR Lawrence - Eglinton	+1,050 +54%	2.5%	+564 +20%	2.9%
CNR St. Clair - Bloor	+550 +16%	.7%	+144 +5%	.7%
Average of 4 screenlines		.80%		1.7%

Table C.2.
St. Clair/Weston Traffic Management Study
Trip Generation Rates
A.M. Peak Hour - Peak Direction

Land Use	Square Metres per employee/ residential unit	Auto Trips per employee/ residential unit	Transit Trips per employee/ residential unit
Residential (average)	87.5 m/unit	.364 /unit	.261 /unit
Office	25.6	.174	.374
Retail	46.5	.141	.062
Industrial	46.5	.183	.242
Other (including institutional)	46.5	.137	.137

Note: Off-peak direction assumed to be 20% of peak direction

Table C.3

Residential Trip Rates

The following Auto trip generation rates were derived from ITE trip rates. The rate for each dwelling unit type was reduced by 20% in order to reflect the higher transit mode split in the St.Clair/Weston study area:

A.M. Peak Hour Average Auto Trip Rate/unit

<u>Unit Type</u>	<u>Trips Entering</u>	<u>Trips Exiting</u>
Single Detached	.17	.44
Single Attached	.17	.44
Plexes	.08	.32
Apartments	.08	.32
Condominium	.06	.30

TABLE C.4

ST. CLAIR/WESTON TRAFFIC MANAGEMENT STUDY

1980 VS. 1991 POPULATION AND EMPLOYMENT

15 DISTRICT ZONE SYSTEM COMPRESSED FROM THE 26 DISTRICT ZONE SYSTEM

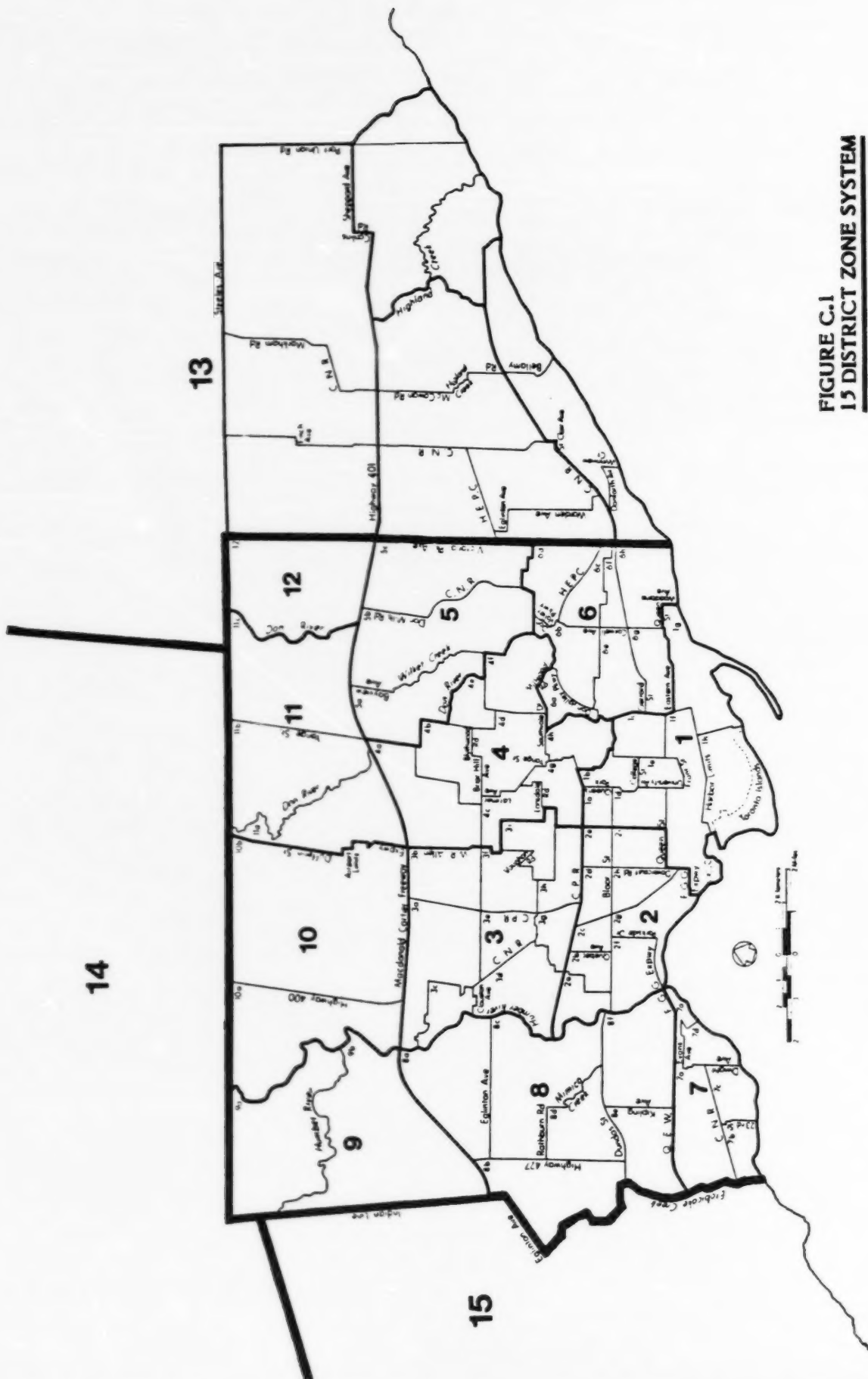
15 DIST.	1980 CALIB EMP.	1980 CALIB POP.	1991 EST. EMP.	1991 EST. POP.	DIFF. 80 VS. 91 EMP.	DIFF. 80 VS. 91 POP.
1	335,739	116838	413532	144479	77793	27641
2	44,486	201812	51073	184907	6587	-16905
3	85,561	220257	92105	219079	6544	-1178
4	78,840	186196	98941	180148	20101	-6048
5	61,108	110410	66493	109855	5385	-555
6	35,975	200881	45598	188166	9623	-12715
7	29,836	49413	31098	55988	1262	6575
8	60,019	177684	74889	170530	14870	-7154
9	53,134	65378	72246	77587	19112	12209
10	99,536	143372	107726	144107	8190	735
11	28,748	131823	58829	148194	30081	16371
12	26,682	81077	33359	79548	6677	-1529
13	205,583	653,991	348,729	822,258	143146	168267
14	82,765	209,316	151,205	355,275	68440	145959
15	195,170	425,648	292,820	604,360	97650	178712
TOTAL	1,423,182	2,974,096	1,938,643	3,484,481	515,461	510,385

TABLE C.5
ST. CLAIR/WESTON TRAFFIC MANAGEMENT STUDY

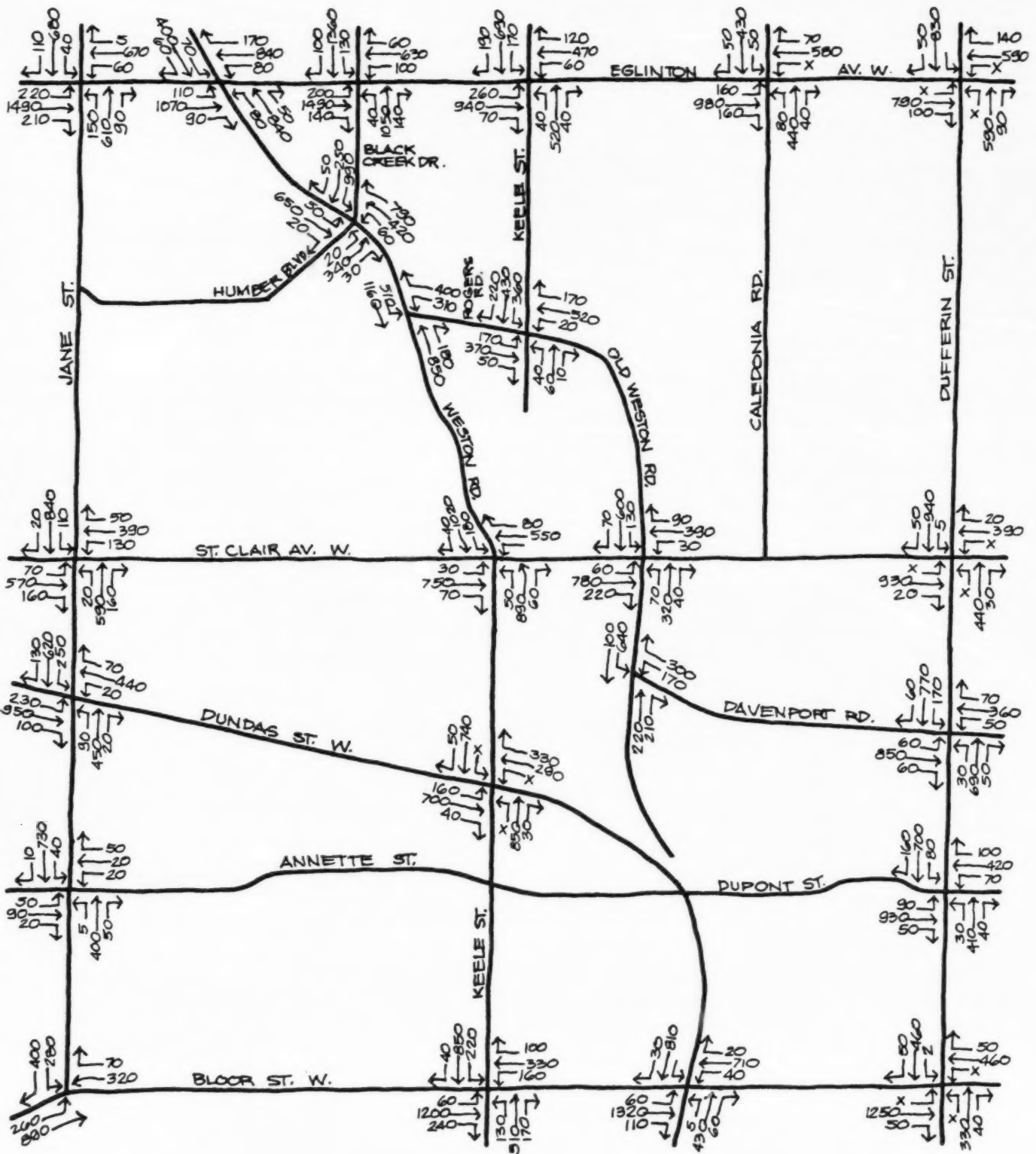
1991 AUTO ORIGIN/DESTINATION TRIP MATRIX

TO :	1 :	2 :	3 :	4 :	5 :	6 :	7 :	8 :
FROM 1 :	9764 :	484 :	393 :	710 :	220 :	367 :	107 :	198 :
2 :	4259 :	4445 :	1931 :	734 :	198 :	195 :	366 :	980 :
3 :	3140 :	1561 :	8866 :	1866 :	413 :	220 :	352 :	1074 :
4 :	4190 :	478 :	1668 :	8528 :	1121 :	482 :	126 :	328 :
5 :	1343 :	148 :	476 :	1296 :	4472 :	469 :	70 :	168 :
6 :	4181 :	276 :	398 :	1394 :	1299 :	4578 :	150 :	278 :
7 :	695 :	203 :	237 :	94 :	66 :	54 :	2700 :	1612 :
8 :	1866 :	787 :	1738 :	511 :	237 :	155 :	1166 :	6212 :
9 :	252 :	113 :	573 :	208 :	118 :	32 :	172 :	532 :
10 :	575 :	284 :	1753 :	567 :	292 :	82 :	175 :	529 :
11 :	870 :	242 :	1066 :	1089 :	737 :	183 :	88 :	256 :
12 :	573 :	94 :	352 :	493 :	1004 :	170 :	36 :	102 :
13 :	4739 :	834 :	3116 :	3818 :	6218 :	2478 :	367 :	989 :
14 :	1338 :	420 :	1324 :	645 :	343 :	149 :	548 :	1354 :
15 :	3842 :	906 :	1721 :	745 :	470 :	347 :	2546 :	5027 :
TOTAL :	41627 :	11277 :	25610 :	22699 :	17210 :	9961 :	8969 :	19639 :

TO :	9 :	10 :	11 :	12 :	13 :	14 :	15 :	TOTAL :
FROM 1 :	89 :	168 :	108 :	69 :	431 :	93 :	338 :	13540 :
2 :	378 :	577 :	242 :	94 :	535 :	345 :	1065 :	16343 :
3 :	1160 :	2424 :	757 :	259 :	1343 :	920 :	1709 :	26063 :
4 :	388 :	1042 :	891 :	339 :	1718 :	402 :	676 :	22376 :
5 :	230 :	530 :	699 :	960 :	3806 :	247 :	386 :	15300 :
6 :	150 :	293 :	310 :	309 :	3330 :	174 :	508 :	17628 :
7 :	405 :	196 :	53 :	20 :	152 :	245 :	1551 :	8283 :
8 :	3337 :	1427 :	344 :	135 :	795 :	1278 :	4207 :	24196 :
9 :	3648 :	1745 :	237 :	74 :	490 :	975 :	1634 :	10803 :
10 :	1336 :	7650 :	980 :	215 :	1191 :	1762 :	1406 :	18797 :
11 :	485 :	3027 :	7655 :	822 :	2642 :	1125 :	683 :	20969 :
12 :	178 :	540 :	1030 :	3427 :	3161 :	306 :	271 :	11738 :
13 :	1751 :	4332 :	4630 :	4774 :	85900 :	3498 :	2743 :	130187 :
14 :	2957 :	3264 :	1035 :	304 :	2918 :	33863 :	12283 :	62747 :
15 :	3794 :	1917 :	574 :	207 :	1348 :	6068 :	70140 :	99653 :
TOTAL :	20285 :	29133 :	19545 :	12007 :	109757 :	51300 :	99600 :	498624 :



ST. CLAIR AVE./WESTON RD. TRAFFIC MANAGEMENT STUDY



SCHEMATIC/ARTICULATED
SCALE:

September, 1987

ST. CLAIR AVE. / WESTON RD. TRAFFIC MANAGEMENT STUDY

FIGURE C.2
1991 TRAFFIC VOLUMES A.M. PEAK HOUR

APPENDIX D

INTERSECTION IMPROVEMENT EVALUATION

ST.CLAIR/WESTON TRAFFIC MANAGEMENT STUDY

INTERSECTION IMPROVEMENT EVALUATION

The following evaluation of intersection improvements was used to determine which improvements would yield the most positive or beneficial results based on certain criteria. Two categories of criteria were utilized, namely Traffic Objectives and Landuse Compatibility. The effectiveness of an improvement was rated by each criterion as being either positive, neutral or negative. All criteria ratings for a particular intersection and improvement were then added together resulting in an overall rating or ranking. The following pages list the improvements and their ratings, as well as a list of criteria.

TABLE D.1 INTERSECTION EVALUATION METHODOLOGY

ST. CLAIR/WESTON TRAFFIC MANAGEMENT STUDY
(CRITERIA - LANDUSE COMPATABILITY AND TRAFFIC OBJECTIVES)

TRAFFIC OBJECTIVES		POSITIVE	NEUTRAL	NEGATIVE
1.)	REDUCE EXISTING TRAFFIC CONGESTION	V/C > 80%	V/C < 80%	-
2.)	REDUCE FUTURE TRAFFIC CONGESTION	V/C > 80%	V/C < 80%	-
3.)	FACILITATE PUBLIC TRANSIT	SERVICE ON APPROACH	SERVICE ON OTHER APP.	-
4.)	FACILITATE TRUCK MOVEMENT	TRUCK ROUTE	NOT A TRUCK ROUTE	-
LAND USE COMPATABILITY		POSITIVE	NEUTRAL	NEGATIVE
1.)	EXISTING LAND USE	-	INDUSTRIAL COMMERCIAL	RESIDENTIAL OR OTHER
2.)	EXISTING O.P./ZONING DESIGNATIONS	INDUSTRIAL	COMMERCIAL	RESIDENTIAL OR OTHER
3.)	HISTORICAL/ ARCHITECTURAL DESIGNATION	DESIGNATED	NO DESIGNATION	-

TABLE D.2 INTERSECTION IMPROVEMENT EVALUATION

ST. CLAIR/WESTON TRAFFIC MANAGEMENT STUDY

INTERSECTION	EXISTING LAND USE	LAND USE COMPATABILITY				CRITERIA				TRAFFIC OBJECTIVES				RATING
		EXISTING ZONING DESIGNATION	O.P. HISTORICAL ARCHITECTURAL DESIGNATION	REDUCE EXIST. TRAFFIC CONGESTION AM.	REDUCE EXIST. TRAFFIC CONGESTION PM.	REDUCE TRAFFIC CONGESTION AM.	REDUCE TRAFFIC CONGESTION PM.	FUTURE FACILITATE PUBLIC TRANSIT	FACILITATE TRUCK MOVEMENT					
DUFFERIN/DAVENPORT														
M.B. L.T.	S.W.CRN.	-	0	+	0	+	0	+	+	+	+	+	+2	
S.B. L.T.	N.W.CRN.	-	0	+	+	+	+	+	+	+	+	+	+4	
*	N.E. CORNER EXCLUDED FROM SOLUTION TO PROBLEM DUE TO STEEP SLOPE/GRADE AT THIS LOCATION.													
DUFFERIN/DUPONT														
M.B. R.T.	N.E.CRN.	+	0	0	+	+	0	+	+	+	+	+	+5	
N.B. L.T.	S.W.CRN.	-	0	0	+	+	0	+	+	+	+	+	+3	
S.B. L.T.	N.W.CRN.	+	0	+	+	+	+	+	+	+	+	+	+7	
*	EAST PORTION OF INTERSECTION EXCLUDED DUE TO BRIDGE ABUTMENT AND WEST SIDE LAND USE SEEMS SOFTER													
BLOOR/KEELE														
M.B. R.T.	N.E.CRN.	0	0	0	+	+	0	+	+	0	+	+	+3	
KEELE/ST.CLAIR														
M.B. R.T.	N.E.CRN.	+	0	0	+	+	0	+	+	+	+	+	+5	
ST.CLAIR/OLD WESTON RD.														
E.B. R.T.	S.W.CRN.	+	0	+	+	+	+	+	+	+	+	+	+7	
*	SITE IS PRESENTLY THE SUBJECT OF A REDEVELOPMENT APPLICATION.													
KEELE/DUNDAS														
E.B. R.T.	S.W.CRN.	0	0	+	0	+	+	+	0	+	+	+	+4	